**Вінницький державний педагогічний університет**
**імені Михайла Коцюбинського**
**факультет іноземних мов**

**Серія: Література на заняттях з англійської мови як іноземної.**

# Сучасна наукова фантастика

## Тед Чанг

## «Історія твого життя»

**Текст та посібник**
**для аудиторної та самостійної роботи**
**для студентів IV курсу**
**факультету іноземних мов**
**денної та заочної форм навчання**
**(з ключами для перевірки)**

**Вінниця - 2024**

**Vinnytsia Mykhailo Kotsiubynskiy**
**State Pedagogical University**
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# Literature in the EFL Classes Series.

# Contemporary Science Fiction: Ted Chiang “Story of Your Life”.

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# Content:

## Наукова фантастика
## та її використання при вивченні іноземних мов

Наукова фантастика є літературним жанром, який базується на сучасних наукових уявленнях і досліджує теми винахідницьких технологій, футуризму, космічних подорожей і досліджень. Формально це один із піджанрів фантастики, що вивчає альтернативні реальності, залучаючи до цього уявні науки, незвичні технології чи надприродне. Водночас, наукова фантастика має настільки унікальні особливості, що може розглядатися як окремий літературний жанр, що поєднує творчу уяву з науковими концепціями, теоріями та припущеннями, створюючи умови для дослідження меж людської природи в екстраординарних обставинах.

Активне академічне вивчення жанру розпочалося в середині XX століття. У 1940-х роках з'явилися перші значущі праці, присвячені аналізу наукової фантастики та її літературних попередників. З 1960-х років інтерес до жанру значно зріс, наукова фантастика як літературний жанр, поступово отримала визнання та набула значущості. Дослідження підкреслюють, що наукова фантастика є багатогранною літературною та культурною формою, здатною охоплювати широкі кола тем, піднімати важливі соціальні й філософські питання та пропонувати нові погляди на звичні речі.

У науковій фантастиці наука й технології займають центральне місце в історії. Автори досліджують вплив науки й техніки на цивілізацію. Часто це відбувається через призму окремої людини та проілюстровано її боротьбою з науково-технічним прогресом. Науково-фантастичні історії можуть відбуватися в будь-який часовий проміжок, але найчастіше з’являються в майбутньому. Наука та технологія, описані в науково-фантастичному романі, повинні передавати відчуття реального світу та бути екстраполяцією сучасної науки. Порушувати наукові закони дозволено, але якщо їх порушити занадто сильно, щоб зануритися в царство неймовірного, історія стає фантастикою, а не науковою фантастикою.

Існують різні погляди на класифікацію науково-фантастичних творів. За одною з найбільш уживаних, існує дві групи: hard science fiction, де розповідається про технологічний прогрес і винаходи, при цьому особлива увага приділяється законам науки, та soft science fiction. У книгах останньої сюжети, як правило, мають філософський або соціальний характер і обертаються навколо етичних питань. Науковим деталям приділяється значно менше часу.

Серед найбільш популярних піджанрів наукової фантастики:

• Апокаліптика /постапокаліптика – історії обертаються навколо кінця світу через техногенні чи природні катастрофи.

• Військова фантастика – бойові дії та військова тактика займають центральне місце в цих історіях. Особлива увага привертається футуристичному озброєнню.

• Перший контакт – ці історії розповідають про першу зустріч інопланетян і людей.

• Кіберпанк – сюжети крутяться навколо комп'ютерних хакерів, мегакорпорацій і кібернетики.

• Подорож у часі – історії про мандрівників, які знаходяться за межами своїх часових рамок.

• Космічна опера – грандіозні історії з масштабними персонажами. Тут варто згадати Зоряні війни.

Щодо походження наукової фантастики, критики та історики літератури мають дуже різні точки зору. Тим не менш, роман британської письменниці Мері Шеллі «Франкенштейн» 1818 року визнано більшістю науковців як перший роман, який досліджує гіпотетичні наслідки сучасної науки. Значний вклад у становлення, визначення та розвиток жанру бачать також у романах Жуля Верна, особливо в його серії «Надзвичайні подорожі», зокрема «Двадцять тисяч льє під водою» та «Подорож до центру Землі»,.

Особливий інтерес до літератури наукової фантастики виник у першій половині двадцятого століття значною мірою завдяки прискоренню наукових доробок у різних сферах життя. Такі романи, як «Машина часу» та «Війна світів» Г. Г. Уеллса, а пізніше – твори Айзека Азімова, Артура Кларка, Роберта Хайнлайна та інших майстрів жанру, стали знаковими для наукової фантастики, утвердивши її як одну з провідних течій у світовій літературі.

Попри усталені традиції та чітко окреслені особливості, сучасна наукова фантастика переживає суттєву трансформацію, продовжуючи динамічно розвиватися в аспектах тематики, сюжетів, характерів персонажів і мовних прийомів. Серед ключових характеристик сучасної науково-фантастичної прози можна виділити:

1. Тематичне різноманіття: широкий спектр тем, від традиційних наукових і космічних – до альтернативної історії та соціальної критики.
2. Різноманітність стилів і піджанрів: кіберпанк, постапокаліптична фантастика, магічний реалізм, та інші. Кожен піджанр має свої особливості і стилістичні прийоми.
3. Фокус на персонажах: автори сучасної фантастики часто зосереджуються на розвитку складних і багатогранних персонажів.
4. Інтеграція наукових і технологічних досягнень в сюжет, як в контексті реальних наукових тенденцій, так і у формі уявних технологій.
5. Міждисциплінарний підхід: автори використовують знання з різних областей науки, філософії, історії та культури для створення більш глибоких і багатошарових світів.

6. Різноманітність голосів: представлення різних культур, ідентичностей і перспектив, що розширює горизонти жанру та забезпечує нові погляди на традиційні теми.
7. Експерименти з формою та структурою: використання нестандартних наративних технік, таких як фрагментовані розповіді або мульти-перспективні оповідання.

Таким чином, жанр наукової фантастики продовжує зберігати зацікавленість серед широких аудиторій, розвиваючись такими ж швидкими темпами, як і сама сучасна наука, та не демонструє жодних ознак уповільнення.

Література наукової фантастики надихнула багато споріднених рухів у кіно, телебаченні та мистецтві, справивши суттєвий вплив на науковий і культурний розвиток XX століття. У XXI столітті в літературі цього жанру домінують американські автори. Вони часто використовують свої твори у жанрі спекулятивної літератури як спосіб осмислення та коментування сучасних суспільних і політичних реалій, пропонуючи нові перспективи на глобальні проблеми.

* * *

Література та художні твори стали важливим підґрунтям у вивченні іноземної мови і нині є невід'ємною частиною методики TEFL. Оповідання та романи знайомлять читача з автентичною мовою, поглиблюють розуміння іноземних культур та стимулюють дискусії в класі, які надихаються багатим художнім матеріалом та його зв'язком з реальним життям. Література мотивує студентів до активної участі в роботі в аудиторії, кидаючи виклик їхнім думкам, досвіду та готовності приймати чи відкидати нові підходи та бачення.

У цьому контексті використання науково-фантастичної літератури на заняттях з англійської мови привертає все більшу увагу науковців. За словами Р. Ахмедова[1], аргументи щодо ролі НФ у викладанні іноземних мов варіюються від її «безглуздого переоцінювання <…> до абсолютно невиправданого заперечення її ролі» [Ахмедов, с. 341]. І хоча фантастику іноді відносять до «жанрової літератури» – термін, що має зневажливу конотацію, її значущість не викликає сумнівів. Сьогодні ці твори нерідко називають «спекулятивною/умоглядною фантастикою» (speculative fiction), тому що наряду з увагою до технологічних досягнень і прогнозів щодо майбутнього людства, ці твори вирізняються великою кількістю філософських, соціальних, політичних питань, які вони порушують. Такі оповідання часто містять соціальні дилеми та конфлікти.

[1] Akhmedov R. International experience in integrating science fiction into teaching English. *Perspective ways of implementation in the educational process of the advanced exterior experience in teaching foreign languages*. Materials of the International scientific-practical conference. Тошкент. 2020. Pp. 340-343.

Це робить наукову фантастику цінним ресурсом на заняттях з іноземних мов, і багато дослідників погоджуються, що вона має значні переваги над іншими жанрами літератури. Ось лише деякі з них, зазначені у науковій розвідці Матея Вошняк та Ізтока Деветак[2]: «сприяння розумінню наукового змісту, виховання позитивного ставлення до науки та технологій, <...> сприяння науковому мисленню, покращення креативності, сприяння науковій грамотності, мотивація до отримання наукових знань» [Vošnjak, Devetak, с. 115]. Погодимося, що ретельно підібрані тексти не лише розширюють загальні знання студентів про науку, але й стимулюють їхню допитливість, пропонують більш «об'єктивний» матеріал для обговорення та акцентують увагу на розвитку навичок критичного мислення, а не лише на висловленні думок про соціальні та особисті відносини, як це часто буває в реалістичній прозі.

У педагогічних університетах наукова фантастика є цінним ресурсом для контекстно-орієнтованого навчання, оскільки ця проза орієнтується на різні наукові дисципліни – фізику, біологію, хімію, астрономію, науки про Землю тощо. Використання цього літературного жанру у викладанні іноземних мов полегшує розуміння наукового змісту, формує позитивне ставлення до науки і техніки, сприяє науковому мисленню та розвитку творчих здібностей, підвищує наукову грамотність – потенціал наукової фантастики дуже широкий.

Навіть у сфері власне мови, багато хто з наукових фантастів фокусуються на лінгвістичних темах та пишуть прозу, в якій природні, штучні чи сконструйовані мови відіграють важливу роль у розвитку сюжету. Серед таких творів – Suzette Elgin *Native Tongue*, Jack Vance *The Languages of Pao*, Samuel R. Delany *Babel-17*, та багато інших. *Історія твого життя* Теда Чіанга, якому присвячена ця методична розробка, тісно пов'язана з теорією лінгвістичної відносності Сапіра-Уорфа. Водночас ця повість порушує важливі філософські та екзистенціальні питання свободи волі, свободи вибору, прийняття неминучого.

Ми цілком погоджуємось з думкою науковців про те, що «поєднання літературної та мовної освіти обіцяє надихати, залучати та формувати лінгвістичний ландшафт майбутнього»[3]. Можливості наукової фантастики поглиблювати знання, розвивати творчість, критичне мислення та уяву видаються неперевершеними, якщо їх «підживлювати прагненням до лінгвістичної досконалості та творчого просвітлення всіх

[2] Vošnjak M., Devetak I. The science fiction in the pre-service teachers' chemistry education. *Chemistry Teacher International*. 2023. 5(2). Pp. 113-124.

1. [3] Bermudes-Rugel L., Pizarro-Velastegui J., Malo-Toledo C., García-Arana M. EFL Teachers' Perceptions of the Use of Science Fiction to Teach Reading & Writing. *Digital Publisher* CEIT. 2024. 9(3). Pp. 1189-1199.

вчителів-словесників, які наважуються фантазувати та творити» [там само].

Таким чином, науково-фантастична проза на заняттях з іноземної мови може стати мотивуючим інструментом, як для покращення рівня володіння мовою, так і для активізації участі студентів у дискусіях та забезпечення більш студенто-орієнтованого підходу до навчання.

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Методичний посібник створений для роботи над повістю американського письменника Теда Чанга «Історія твого життя» (1998) – одним із найвідоміших сучасних творів у жанрі наукової фантастики. У 1999 році повість отримала премію Теодора Стерджена та премію Локус, а в 2002 році – престижну нагороду Неб'юла. У 2016 році «Історія…» була екранізована в повнометражному фільмі «Прибуття».

Головна героїня, доктор Луїза Бенкс, лінгвіст та науковець, отримає запрошення розшифрувати мову інопланетних істот, та набуває нового вміння бачити майбутнє завдяки вражаючому досвіду вивчення мови інопланетян. Таким чином вона дізнається про трагічне майбутнє своєї доньки. Автор повісті досліджує теми мови, детермінізму та людського сприйняття крізь призму лінгвіста, який вчиться спілкуватися з позаземними істотами. А серед запитань, які постають перед читачем, одним із найголовніших стає: чи можете ви змінити майбутнє, якщо знаєте його, і як ви можете прийняти неминуче, якщо ви не можете його змінити.

Студентам пропонується опрацювання автентичного тексту повісті Теда Чанга, а також перегляд та обговорення її екранізації.

**Посібник** може використовуватись на заняттях зі студентами IV курсів денної і заочної форм навчання факультетів іноземних мов. Його метою є формування навичок інтенсивного читання з використанням елементів аналітичного та інтерпретаційного читання, активізація мовленнєвої діяльності студентів, стимулювання їх самостійної і індивідуальної роботи, розвиток та закріплення лексичних навичок.

Досягнення поставленої мети вимагає рішення наступних **завдань:**

- створити майбутнім вчителям інформаційний простір для інтелектуального розвитку;
- ознайомити студентів з основами наукової фантастики та творчістю сучасного американського письменника-фантаста Теда Чанга;
- проаналізувати мову сучасного літературного твору та сформувати навички щодо вживання автентичних лексичних, синтаксичних і стилістичних моделей англійської мови;
- навчити студентів елементам інтерпретації художнього тексту;
- привернути увагу до загальних проблем філософської, психологічної та етично-естетичної спрямованості;
- заохотити студентів до самостійної роботи з художнім текстом.

Текст повісті поділено на частини. До тексту запропоновано коментарі, додаткова інформація та візуальні матеріали, що пояснюють важкі аспекти лінгвістики та фізики, на яких побудована повість. По ходу читання студентам пропонується звернути увагу на питання для обговорення. Завдяки такому підходу, посібник може використовуватись як для аудиторної, так і для самостійної роботи студентів. Успішному опрацюванню тексту також сприятимуть зазначені у виносках пояснення до активного вокабуляру повісті.

Значна увага приділяється розширенню словникового запасу студентів, його активному застосуванню через виконання достатньо великої кількості вправ на опанування нових лексичних одиниць. Завдання для самостійного опрацювання позначено як self-check. Метою лексичних вправ є активізація вокабуляру та попередження орфографічних помилок, помилок у вимові, словотворі та сполучуваності слів. Особлива увага приділяється прагматично-комунікативному навантаженню лексичних одиниць, доречному вживанню синонімів. Значний акцент зроблено на українсько-англійському та англо-українському перекладах. Особлива увага приділяється обговоренню стилістичних особливостей тексту.

Друга група завдань спрямована на перевірку розуміння тексту, використання активної лексики та її закріпленню у ситуативних завданнях. Питання для загального обговорення проблем, висвітлених у творі, винесені на полях тексту, та можуть використовуватись для навчання студентів його адекватному тлумаченню, розкриттю підтексту, висловлюванню ставлення до подій та персонажів.

Після обговорення книги та її екранізації студентам пропонується написання есе на одну з тем. Для покращення цієї роботи надано критерії написання письмових робіт, а також критерії їх оцінювання.

По закінченні читання повісті студенти повинні продемонструвати детальне знання змісту художнього твору, вміти проаналізувати основні проблеми, про які йдеться в книзі, та розкрити власне розуміння шляхів їх вирішення, охарактеризувати героїв, головні події, кульмінаційні епізоди із застосуванням активної лексики та автентичних структурних моделей. Студенти мають вміти визначити ключові ідеї повісті та аргументовано висловити своє ставлення до героїв, вчинків або подій.

Перший додаток містить список активної лексики та словосполучень, які студенти мають опанувати в процесі читання книги.

У другому додатку надані ключі для перевірки вправ. В залежності від типу роботи з текстом, аудіторної чи самостійної, ключі можуть використовуватись викладачем для прискорення перевірки вокабулярних вправ, для створення тестів тощо, або студентами – для перевірки власної самостійної роботи.

У третьому додатку запропоновано коментарі до повісті Чанга та її екранізації.

**SUGGESTED TECHNOLOGICAL CHART**

***SF and "Story of Your Life" by Ted Chiang***

| **Classes** | Practical Assignment | **Activities/Testing** |
|---|---|---|
| 1.Introduction<br>*Ice-breaking Activities,*<br>*Module Requirements* | Introduction to SF literature<br>Introduction to Ted Chiang | Monologues, Round table Discussions, Background Knowledge Evaluation |
| 2. Part 1. | ASSIGNMENT 1. | Translation Test<br>Part-1 Text Discussion |
| 3. Part 2. | ASSIGNMENT 2. | Vocabulary Test<br>Part-2 Text Discussion |
| 4. Part 3. | ASSIGNMENT 3. | Translation Test<br>Part-3 Text Discussion |
| 5. Part 4. | ASSIGNMENT 4. | Vocabulary Test<br>Part-4 Text Discussion |
| 6. Movie "Arrival" | ASSIGNMENT 5. | Movie Discussion<br>Essays (home task) |
| 7. Final Class | Active Vocabulary of the Book. Contents and Philosophy of the Book.<br>Characters Discussion | Final Text Discussion<br>Final TEST |

## INTRODUCTION TO SCIENCE FICTION

Science fiction (SF) is one of the most popular and commercially successful genres of the twentieth century.

Unfortunately, SF has often been dismissed by the literary establishment as it is closely associated with pulp fiction and low-budget movies. However, many of the greatest literary writers, from ***Mary Shelley*** to ***Kazuo Ishiguro*** have written SF, and some of the most challenging literary works come in this form, using the dramatic potential of the future to ask fundamental questions about the human condition: where do we come from, what are we and where are we going?

In SF more than any other genre, the author can be seen as a prophet, though in 1959 the classic American sci-fi writer Robert A. Heinlein described the form, more modestly, as 'Realistic speculation about possible future events'. Some authors insist the genre should be firmly based in modern science and technology, while others, such as Margaret Atwood suggest the term 'speculative fiction' is more appropriate.

### The Hard or the Soft?

Within SF there are usually considered to be two major divisions, although the boundaries between them are hard to map precisely, and the same authors might work on one side and then the other.

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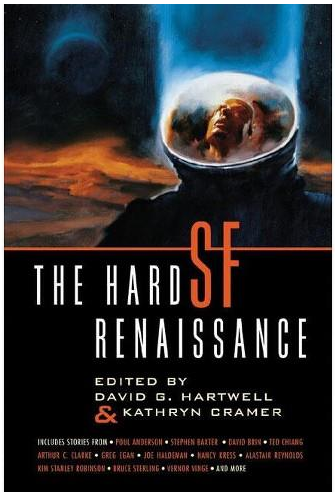
[4]**Hard SF** is usually focused on examination of technology and its general effects more than it is on the specific characters in a story. The most famous hard SF writers include former physicists and engineers like Isaac Asimov, Arthur C. Clarke, and Robert A. Heinlein.




Although hard SF writers do not only invent future technology, tech is a very, very important part of their writing. Hard SF writers still develop characters, and they have themes, but they never let future technology and its implications out of the spotlight. The mysticism in Frank Herbert's *Dune* books might seem to make them soft SF, but the relentless focus on the technological underpinnings of nearly every action in the book keeps *Dune* (and the rest of Herbert's work) in the hard category.

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The pictures in this lecture are taken from Wikipedia

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**Soft SF** writers often use SF as an excuse to write about other things that interest them. *Star Wars* is soft SF, as is Margaret Atwood's *The Handmaid's Tale*. Any work of SF in which the author does not explain how the technology works and does not take much time investigating its implications but instead focuses on the inner lives and struggles of the characters could be soft SF.


Great books, like Samuel R. Delany's *Babel-17* and Ursula K. Le Guin's *The Left Hand of Darkness*, can be soft, and the more romance-oriented, space opera books, such as those by Piers Anthony or Anne McCaffrey, are certainly soft. Satirists like Kurt Vonnegut or George Orwell might also count as soft SF writers, though these authors may deserve a different category. It could even be argued that one of the foundations of the genre, Mary Shelley's *Frankenstein*, is soft SF.

Some critics would relabel SF as "speculative fiction," fiction that attempts to probe the future, either warning about its horrors or cheerleading its approach. And speculation is an important part of SF. But there is more. SF attempts to give readers a taste of the impossible. It opens new vistas and juxtaposes previously separate ideas. SF took off in popularity and quality at exactly the same time as the world was finally being completely explored and mapped. Civilizations yearn for new worlds: As history closed off the real frontiers, SF invented new ones.

## The Roots of the Genre

Some critics would trace the roots of SF all the way back to Plato and his story of Atlantis. But when one is talking about a body of works in a genre that are accepted as recognizably akin to today's SF, SF as it is now known really begins in the nineteenth century.

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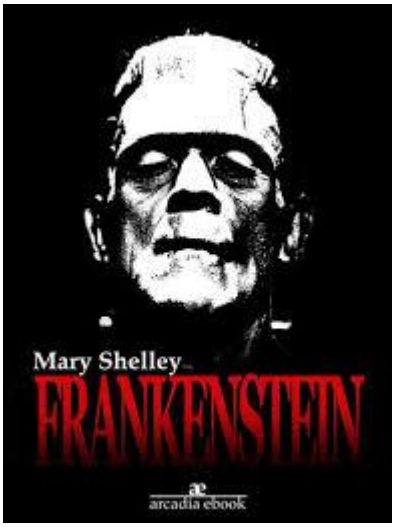
Many critics call **Mary Wollstonecraft Shelley's** *Frankenstein, or, The Modern Prometheus* the first SF novel. Shelley wrote Frankenstein when she was only nineteen years old. It was first published in 1818. Shelley's monster is hideous because of his genesis in corpses and the experiments of his creator, but his heart is, at the beginning, pure. He seeks only love and companionship but because of his appearance people flee from him. When even his own creator

refuses to accept him, the monster begins to punish Frankenstein through a series of murders.




*Frankenstein* could be considered SF because the novel focuses on the personal and social implications of a technological experiment: Frankenstein's giving life to his creation. However, the real focus of the novel is the moral responsibility of Frankenstein and the great misery felt by the monster after being rejected both by society and by its creator.

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The rise of the nineteenth-century novel coincided with great scientific leaps, giving writers such as Jules Verne and H.G. Wells a chance to explore science, politics and moral issues in full-length works.

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The first great writer fully within the SF genre is probably the French author **Jules Verne**. Verne engaged directly with technology, and he clearly attempted to understand the cutting-edge science of his day. So, for example, *20,000 Leagues Under the Sea* imagines electrically powered submarines; *Journey to the Center of the Earth* uses the details of nineteenth-century geology. Verne was doing what modern SF writers do: taking the current technological developments of his day and extrapolating them into the future.

***


The British writer **H.G. Wells**, whose most famous works were published at the very end of the nineteenth century, began writing books to prophesize about the future and to attempt to usher in the utopian society. Wells's most famous works, *The Time Machine*, *The Island of Doctor Moreau*, *The War of the Worlds*, and *The Invisible Man* all take elements of nineteenth-century science and extrapolate them into the future.

## A Golden Age

The 1940s are often called the golden age of SF. Many of the great writers who shaped the genre for half a century began writing: Isaac Asimov, Robert A. Heinlein, Arthur C. Clarke, A.E. van Vogt, L. Sprague de Camp, Theodore Sturgeon, and Lester del Rey. Their works often explored groundbreaking

scientific concepts, futuristic technologies, and imaginative worlds, laying the groundwork for the development of the genre.

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***Isaac Asimov, Robert Heinlein,*** and ***Arthur C. Clarke*** are usually called the "Big Three" of the golden age. All three writers wrote defining, masterful works and shaped SF for the next few decades.

***

**Asimov** was possibly the most prolific writer ever. The Foundation books – *Foundation* (1951), *Foundation and Empire* (1952), and *Second Foundation* (1953) – re-create in some ways the history of the Roman Empire with an SF twist. The original Foundation trilogy gave impetus to vast "future histories" that took in entire galaxies and set the stage for Dune and other more sophisticated texts.

Asimov's *Robot* books are also very influential on subsequent depictions of artificial intelligence and artificial consciousness. Asimov invents the "positronic brain" (the inverse of an electronic brain) that, with a little mumbo-jumbo, can become effectively conscious. But this is consciousness without complete free will.

***

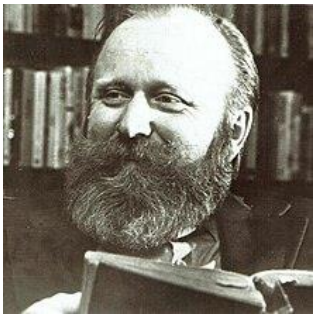
**Heinlein** did not enter the field of SF until he had already worked as a naval officer and studied physics and mathematics at the University of California, Los Angeles. As one of the SF writers for genre magazines during Science Fiction's golden age, Heinlein had a sophisticated writing style. Heinlein published several SF juveniles, or young adult novels, then he began a series of controversial novels, including *Stranger in a Strange Land* and *The Moon Is a Harsh Mistress,* his best-known works. Heinlein, considered by many to be the most influential figure in American SF.

## A New Style of Science Fiction

In most critical histories of SF, the 1960s and 1970s are characterized as the time of the "New Wave," when a group of young, brash writers changed the face of SF forever. The New Wave was closely associated with Michael Moorcock's New Worlds magazine and included writers such as ***J.G. Ballard, Ray Bradbury, Harlan Ellison,*** and ***Fritz Leiber***.

***

The New Wave writers were reacting strongly against the main traditions of SF. Many of them were extremely leftist in political persuasion and worked their politics into their writing. They were focused on stylistic innovation and experimentation and for the most part rejected the attention given to technology and space travel that had characterized golden age SF.



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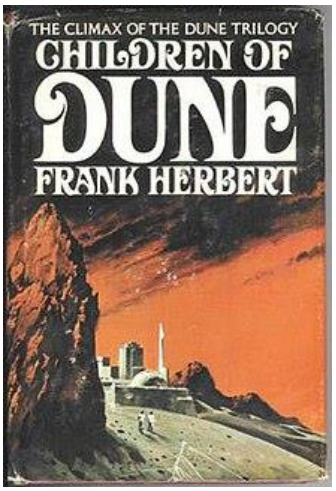
Possibly the most important thing that happened to SF in the 1960s was the publication of **Frank Herbert's** novel *Dune* in 1965. *Dune* would go on to become the best-selling SF novel of all time and Herbert would spend the next twenty years writing sequels. *Dune* illustrates one of the major impulses of 1960s SF: world-building on a previously unprecedented scale.

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*Dune* is set between twenty-two thousand and thirty thousand years into the future, after a great human diaspora has colonized many thousands of worlds. The galaxy operates under a hybrid feudal/mercantile system in which a Spacing Guild keeps civilizations in touch with each other and under the sway of an Emperor and a variety of Great Houses.

There are many complex plot arcs in *Dune* but the major focus is young Paul Atreides, the heir of the Great House of that name. The plot revolves around Paul's disinheritance after his house's great rivals, the Harkonnens, have killed his father and driven him into exile in the desert.

***

The politics in *Dune* are quite deliberately Byzantine, the struggles for power in the stories are particularly realistic, Herbert's technical innovations are equally complex, and he shows them firmly embedded in the cultures in which they exist. Herbert also gives his characters powers beyond those of ordinary humans.

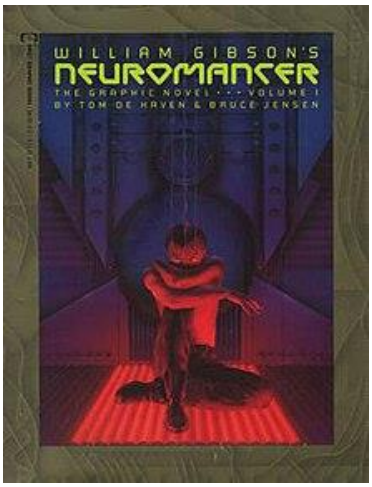
In the second book, *Dune Messiah,* Paul's great triumph turns to tragedy. Herbert's vision was that charismatic political leadership was a terrible thing that more often than not led to societal destruction. Herbert thought that John F. Kennedy and his cult had been a disaster for America. But the only way for Herbert to communicate this idea was to build up a hero that all readers loved and then show him brought low, responsible for tyranny and the deaths of billions.

***

The theme of all the subsequent books in the *Dune* series (*Dune Messiah*, *Children of Dune, God Emperor of Dune, Heretics of Dune*, and *Chapterhouse Dune*) is the quest to find human freedom. Herbert realized that seeing the future, by anyone, was incompatible with human freedom and, perhaps, human survival.

***

Many SF enthusiasts believe that SF was almost destroyed by 1980, when the immense success of **George Lucas's** *Star Wars* had brought SF to new levels of popularity. A small group of writers who were attempting to be innovative in both content and style, created fiction that became known as **cyberpunk.**

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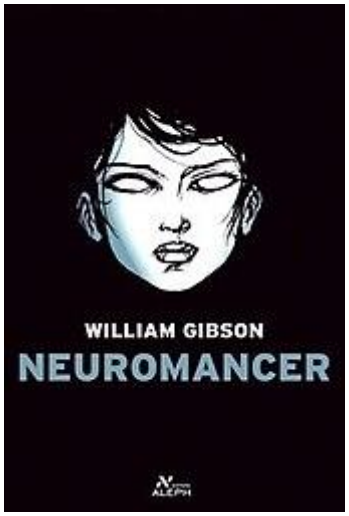
Cyberpunk's most visible writer was **William Gibson**, whose *Neuromancer* still defines the genre. Other notable cyberpunk writers are the mathematician ***Rudy Rucker, John Shirley***, and ***Pat Cadigan***.

***

The plot of *Neuromancer* is driven by an artificial intelligence, Wintermute, that is attempting to break free of the limits placed on it by its programming by merging with another AI. The human characters, a hacker Case, Molly (a "Razorgirl"), Armitage (a schizophrenic former Green Beret), and Riviera (a dangerous psychotic) are manipulated by Wintermute to cut the electromagnetic shackles that hobble it, thus allowing it to merge with Neuromancer and form a new entity.

*Neuromancer* was followed by the sequel, *Count Zero*, and *Mona Lisa Overdrive*, the final book in the trilogy.

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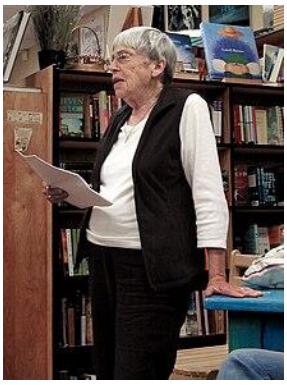
Although there is no longer a movement called cyberpunk, the influence of the specific authors and works, particularly Gibson and *Neuromancer*, has continued to be felt, not only in mass culture and film (as the success of the *Matrix* films shows), but also in other SF, particularly in post-punk fiction.

## Women writers

There are quite a number of accomplished contemporary female SF authors, but two of the very best, if not the best, are legends ***Ursula K. Le Guin*** and ***Octavia Butler***.



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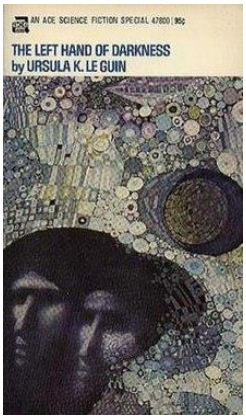
**Ursula K. Le Guin** is one of the most influential and accomplished "soft" SF writers. Her SF is short on physics and chemistry and noticeably long on social analysis, character development, and the reimagining of the human mind and the social organism.

Le Guin's most famous and successful science fiction books are those loosely joined together by their connections to the "Ekumen," a loose federation of human societies. In Le Guin's stories, humans spread throughout the galaxy from the ancestral homeworld of Hain. But the main civilization collapsed and the colony planets (which include Earth) forgot their roots. The Ekumen arises as the various planets develop interstellar travel and communication and then attempt to form an organization based on the exchange of culture and technology rather than on coercion.




Le Guin's most famous and accomplished SF novels include *The Left Hand of Darkness*, *The Dispossessed, The Moon Is a Harsh Mistress* and *The Diamond Age*.

***

**Octavia Butler** may be most well known for her time-travel novel *Kindred*, in which a black woman (in order to save her own life) travels back in time to the antebellum South to save the life of a white slave owner. But many critics argue that Butler's greatest SF accomplishment is *Xenogensis* trilogy (*Dawn*, *Adulthood Rites*, and *Imago*).

***


Butler's story *Bloodchild*, which is sometimes ranked among the top two or three SF short stories of all time, tells the story of human refugees who have landed on a planet populated by the T'lic, intelligent insectoid creatures larger than humans. This SF story engages with the difficult themes of slavery, domination, and dependence and offers readers the underlying issues of race, gender, oppression, and mutual exploitation.

## The Dystopians

Some major writers who are at least sometimes classified as SF writers, ***George Orwell***, ***Aldous Huxley, Anthony Burgess***, and ***Kurt Vonnegut***, used SF tropes in their writing or set their stories in the future or in an unknown past but they are really far more concerned about social commentary than they are about SF itself.

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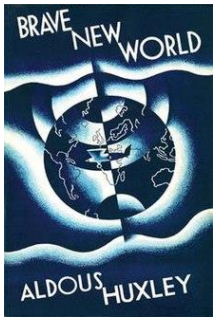


**Aldous Huxley's** brilliant 1932 novel, *Brave New World*, is set in the twenty-sixth century, where poverty, disease, warfare, and unhappiness have been eliminated via eugenics, state planning, and high technology. But families, art, literature, philosophy, and religion have been also eliminated.

***

**George Orwell's** dystopian *1984* is additionally interesting because of Orwell's invention of "Newspeak," a language developed by the Ingsoc Party to constrain the thought of new generations of individuals. Newspeak is a strong illustration of the Sapir-Whorf hypothesis that the structure and content of a language limits and controls the thoughts that speakers of that language can develop or express.

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**Anthony Burgess's** *A Clockwork Orange* is a depiction of a society in which violence has escalated beyond the ability of anyone to control or limit it. The society uses conditioning to attempt to eliminate violence, but this ends up being a failure.

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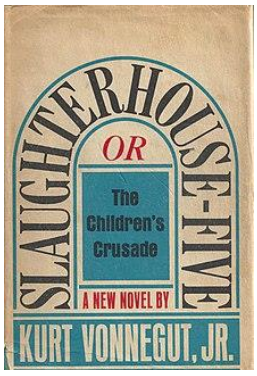
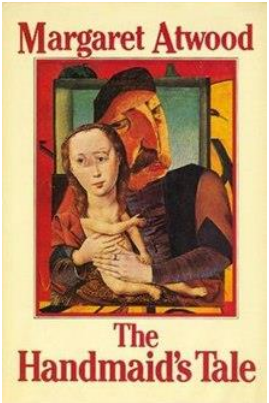



In his masterpiece *Slaughterhouse 5* **Kurt Vonnegut** uses time travel and other SF tropes to create a confused, dreamlike quality that suggests that his hero Billy Pilgrim is in fact insane. The SF is less important in Slaughterhouse 5 than are Vonnegut's descriptions of the fire-bombing of Dresden and its aftermath, but they are still relevant to the plot and the tone of the novel.

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**Margaret Atwood's** *The Handmaid's Tale* describes an oppressive religious dictatorship that has taken over the United States and forced women of childbearing age who are not married or who have committed "gender crimes" to be "handmaids," for the purpose of producing new children for already married men.

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These satirists show how powerful SF tropes are within contemporary culture. SF gives them freedom to examine the human condition in a new light, highlighting different elements of society, culture, and behavior and critiquing the way things are by comparing them to the way things might be.

***

Contemporary SF is a diverse genre, but it often contains several **key features that make it recognizable**:

1. *Speculative Concepts*: Science fiction often explores speculative or futuristic concepts that are grounded in scientific principles or theories. These concepts may include advanced technology, space exploration, time travel, alternate realities, or extraterrestrial life.
2. *Imaginative Settings*: Sci-fi stories frequently take place in imaginative or futuristic settings, whether on distant planets, in space colonies, alternate dimensions, or advanced civilizations. These settings allow authors to explore new worlds and societies.
3. *Technological Advancements*: Technology plays a significant role in science fiction, often depicted as both a source of progress and a potential threat. Futuristic gadgets, artificial intelligence, advanced robotics, and other technological advancements are common features of the genre.
4. *Exploration of Societal Issues*: Sci-fi often serves as a lens through which authors explore societal issues, such as politics, ethics, environmental concerns, social justice, and the impact of scientific advancements on society. These explorations can be allegorical or directly reflective of contemporary issues.
5. *Sense of Wonder*: Science fiction often evokes a sense of wonder and awe, inspiring readers to imagine possibilities beyond our current understanding of the universe. Whether exploring the wonders of space, the mysteries of the cosmos, or the potential of human innovation, sci-fi seeks to captivate and inspire.
6. *Plausible Science*: While sci-fi may involve fantastical elements, it typically adheres to some semblance of scientific plausibility or internal consistency. Authors may extrapolate from current scientific knowledge or propose theoretical advancements, but they strive to create a sense of realism within their fictional worlds.
7. *Futuristic Themes*: Themes commonly explored in science fiction include exploration, discovery, survival, identity, humanity's relationship with technology, the nature of reality, and the consequences of scientific progress. These themes often reflect the hopes, fears, and aspirations of humanity's future.

***

SF is a versatile genre that encompasses a wide range of themes, settings, and storytelling approaches, explored in **different subgenres.** Some of them:

1. *Space Opera* is characterized by epic space adventures, grandiose settings, and dramatic conflicts, space opera often features interstellar travel, alien civilizations, and epic battles.
2. *Cyberpunk* is set in a dystopian future where advanced technology coexists with societal decay, cyberpunk explores themes of corporate control, hacking, artificial intelligence, and the merging of humans with technology.
3. *Post-Apocalyptic* SF is set in the aftermath of a global catastrophe, post-apocalyptic sci-fi depicts societies struggling to survive in a world ravaged by environmental collapse, nuclear war, or other catastrophic events.
4. *Alternate History* speculates on what might have happened if historical events had unfolded differently, often incorporating elements of science fiction to explore alternate timelines, parallel universes, or changes to the course of history.
5. *Time Travel* explores the concept of time travel and its consequences, often featuring characters who journey to the past or future to alter events, correct mistakes, or explore alternate timelines.
6. *Military* SF focuses on military conflicts in futuristic settings, often featuring space battles, advanced weaponry, and themes of duty, honor, and sacrifice.
7. *Utopian and Dystopian* Fiction imagines ideal or nightmarish future societies, exploring themes of social, political, and environmental change, as well as the consequences of utopian or dystopian visions.

## Literature used for the lecture


1. 30-Second Literature. The 50 most important forms, genres and styles, each explained in half a minuteю / Editor Ella Berthoud. Ivy Press. UK. 2020. 160 p.
2. Drout Michael D.C. From Here to Infinity: An Exploration of Science Fiction Literature. Wheaton College. Recorded Books, LLC. 2006. 78 p.
3. Science Fiction and Fantasy Literature. In *Literary Movements for Students* / Project Editor: Ira Mark Milne. Gale, Cengage Learning. 2009. Pp. 744-776.

## INTRODUCTORY CLASS: SCIENCE FICTION

1. ***Science Fiction Basics***:
   1) What do you know about SF literature? First SF story/novel? What are the conventions of the genre?
   2) Who are some of the most important sci-fi writers? What do you know about the Golden Age of Science Fiction in the mid-20th century? Think of the influential authors and their contributions to the genre.
   3) What is the relevance and enduring appeal of sci-fi literature in contemporary society?
   4) Examine contemporary trends within science fiction. What subgenres of sci-fi do you know? What are their typical characteristics? What is the difference between hard and soft sci-fi?

2. ***Ted-ed video lessons on Science Fiction***:
   - Is time travel possible? - Colin Stuart
     URL: https://ed.ted.com/lessons/time-travel-and-einstein-s-special-relativity-colin-stuart

*Discussion question*: If you could time travel into the future, what is the one thing you would like to see invented/achieved/discovered/solved or done when you got there? Why?

   - How science fiction can help predict the future - Roey Tzezana
     URL: https://ed.ted.com/lessons/how-science-fiction-can-help-predict-the-future-roey-tzezana

*Discussion question*: Should we encourage science fiction writers to take part in governmental and international relations committees? Do you think politicians should consult science fiction writers? And if so, what would be the result?

   - Why should you read sci-fi superstar Octavia E. Butler? - Ayana Jamieson and Moya Bailey
     URL: https://ed.ted.com/lessons/why-should-you-read-sci-fi-superstar-octavia-e-butler-ayana-jamieson-and-moya-bailey

*Discussion question*: Given Butler's use of fiction to deal with real world concerns, what contemporary issues might you explore using science fiction?

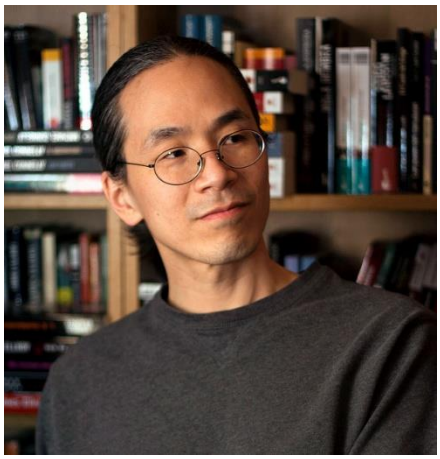
***3. Beyond literature***

1. How does science fiction reflect and influence attitudes, values, and anxieties in the society? What role does it play in exploring ethical, philosophical, and existential questions?

2. What impact has sci-fi literature had on popular culture, including film, television, and other forms of media? Explore iconic sci-fi films and TV series and their impact on popular culture.

How have the themes of sci-fi films changed over the 20-21 century?

**MEET THE AUTHOR: Ted Chiang**



*Read the following text and search for more information about the author, his life, major interests, important works. What facts of his life do you think might help you understand his stories?*

*(source - wikipedia.org: https://goo.su/MeJ)*

Ted Chiang is an American science fiction writer. He has published only two story collections' worth of fiction: **Stories of my life,** 2002 and **Exhalation**, 2019. Chiang has won nearly every major award science fiction has to offer: four Nebulas, four Locus Awards – twenty-seven wins out of fifty-six nominations.

Even his non-wins are noteworthy: there is a story passed among Chiang-heads about how he once turned down a Hugo nomination because he considered the work unfinished.

One of the most interesting facts about Ted Chiang is that he doesn't much enjoy 'small talk'. Such questions as: "What is your writing schedule like?" or "How do you feel about the release of your new book?" almost seem to disconcert him. Ted Chiang takes fancy to discuss the art of science fiction. Technology is a deep interest of his: "I can talk about AI all day long," he confessed in half apology, but even more so, Chiang is interested in the ways society and culture respond to tech.

Ted Chiang took a job at Microsoft where he wrote technical manuals when he was living in Seattle (city in Washington).

We are accustomed to the fact that each author uses more literary devices (epithets, metaphors…) in his or her work works. But Ted Chiang is an exception he doesn't imagine that his use of language is the main attraction of his works. He wishes he could write in more beautiful style. Although Ted Chiang uses simple sentences in his science fiction masterpieces, without various stylistic devices, he tries to draw readers' attention to science (physics, linguistics), and he managed to become a famous writer.

***AMONG THE MOST PROMINENT WORKS OF TED CHIANG***:

**"Tower of Babylon"** (1990), won the Nebula Award, reimagines the biblical story of the Tower of Babel, blending ancient myth with hard science fiction to explore themes of human ambition and the nature of the universe.

**"Story of your life"** (1998), explores themes of language, determinism, and human perception through the lens of a linguist who learns to communicate with extraterrestrial beings.

**"Exhalation"** (2008), won the Hugo Award and is a profound meditation on entropy, consciousness, and the finite nature of existence, told through the perspective of a mechanical being.

**"The Lifecycle of Software Objects"** (2010), won the Hugo and Locus Awards, examines the ethical and emotional complexities of artificial intelligence through the story of virtual pets and their human caretakers over a span of years.

***WANT TO KNOW MORE ABOUT TED CHIANG?***

1. '***The New Yorker***' discusses Ted Chiang's new collection of stories in the article *Science Fiction Doesn't Have to Be Dystopian.* URL: https://goo.su/9hT5
2. Read *An Interview with Ted Chiang* in ***The Believer.*** URL: https://goo.su/9kdJ
3. Listen to a talk with Ted Chiang on Free Will, Time Travel, Many Worlds, Genetic Engineering, and Hard Science Fiction. URL: https://goo.su/9yfZ
4. Read reviews of Ted Chiang's stories at URL: https://goo.su/HYB

***BOOKS RECEPTION***

"Story of Your Life" is an award-winning science fiction novella by acclaimed short story writer Ted Chiang. The story was first published in *Starlight 2* in 1998, after five years of research into linguistics and physics on Chiang's part. In 2002, the novella was reprinted in Chiang's collection of short stories, entitled *Stories of Your Life and Others.* The story has become one of the genre's most acclaimed works and has been translated into numerous languages. In 1999, the story won both the Theodore Sturgeon Award and the Locus Awards for Best Novella, and in 2002, it received a coveted Nebula Award for Best Novella. In 2016, the story was adapted into the feature film *Arrival*.

"Chiang's lucid writing and impressive grasp of mathematical concepts and the physics of the universe leave a profound impression as he compels the reader to travel further down the rabbit hole and beyond the realm of reason."

*Brian Odom Booklist. 11/1/2014, Vol. 111 Issue 5, p71-71. 1/6p.*

"Ted Chiang's science fiction helps us look past the power of technology.

<…>. His stories brim with wonder and horror, spectacle and mundanity, philosophy and religion. Tapping into a range of speculative traditions, from pulp and fantasy to the rigorous scientific accuracy of hard sci-fi and the popcorn thrills of soft sci-fi, his work has a profound richness. On both a conceptual and a narrative level, the technology and scientific inquiries that animate his stories never function as props or pretexts. Chiang's science fiction is fundamentally social, every character and object deeply intertwined in history and in future possibility. His narratives trace the consequences of these social relations, networks, and webs expanding, collapsing, and evolving."

*Stephen Kearse, The Nation. December 2/9, 2019, p. 32*

"Chiang is one of the best speculative-fiction writers writing today."

*Jo Alyson Parker, Time's Books, Kronoscope 20 (2020) 135-160*

## INTRODUCTION
## to “Story of Your Life”

1. **The genre**: science fiction, speculative fiction.

2. **Characters in the story:**

***Dr. Louise Banks*** - novella’s narrator and protagonist, a linguist, an expert in the structure of languages. Louise is one of the few researchers chosen to help decipher the language of the alien heptapods who arrive in Earth’s orbit.

**Dr. Gary Donnelly** - a physicist working with Louise to study the heptapods. While Louise’s job is to decode the language of the heptapod, Gary works on uncovering their understanding of physics. Gary is shown to be keenly intelligent and driven in his work.

**Louise’s daughter**, unnamed. Her story is told only through second-person anecdotes jumping around in time.

**Colonel Weber** represents the interests of the US military and has a narrow understanding of both the researchers and the heptapods.

**The heptapods** are technologically sophisticated, seven-limbed aliens who perceive reality nonlinearly. Their reasons for visiting the Earth are mysterious.

3. **The structure & Themes:**

Story has two main threads to the plot: one covers the story of the narrator's involvement in the attempt to communicate with mysterious aliens. The other thread jumps around, telling the story of the narrator's daughter's life through anecdotes at various different ages.

**Language:** There's a strong Sapir-Whorf sort of element to the story, in which learning the alien language produces a dramatic change in the way Louise sees the world. Speculation about language itself — the origin of language, the nature of language.

**Physics**: Fermat’s principle of least time, which enables Louise to finally solve the puzzle of heptapod writing and consciousness.

**Theme: Free will vs destiny.** The exploration of the Big Question "*What would it be like to go through life knowing what would happen in the future, but being unable to change it?*"

**Theme: Language vs reality:** The differences between human and heptapod languages highlight the question of whether language reflects or shapes one’s perceptions of reality.

## *Ted Chiang*
## Story of Your Life

## Part 1.

Your father is about to ask me the question. This is the most important moment in our lives, and I want to pay attention, note every detail. Your dad and I have just come back from an evening out, dinner and a show; it's after midnight. We came out onto the patio to look at the full moon; then I told your dad I wanted to dance, so he humors me and now we're slow dancing, a pair of thirty somethings swaying back and forth in the moonlight like kids. I don't feel the night chill at all. And then your dad says, "Do you want to make a baby?"

Right now your dad and I have been married for about two years, living on Ellis Avenue; when we move out you'll still be too young to remember the house, but we'll show you pictures of it, tell you stories about it. I'd love to tell you the story of this evening, the night you're conceived[5], but the right time to do that would be when you're ready to have children of your own, and we'll never get that chance.

Telling it to you any earlier wouldn't do any good; for most of your life you won't sit still to hear such a romantic— you'd say sappy[6]— story. I remember the scenario of your origin you'll suggest when you're twelve.

"The only reason you had me was so you could get a maid you wouldn't have to pay," you'll say bitterly, dragging the vacuum cleaner out of the closet.

"That's right," I'll say. "Thirteen years ago I knew the carpets would need vacuuming around now, and having a baby seemed to be the cheapest and easiest way to get the job done. Now kindly get on with it."

"If you weren't my mother, this would be illegal," you'll say, seething as you unwind the power cord and plug it into the wall outlet.

That will be in the house on Belmont Street. I'll live to see strangers occupy both houses: the one you're conceived in and the one you grow up in. Your dad and I will sell the first a couple years after your arrival. I'll sell the second shortly after your departure. By then Nelson and I will have moved into our farmhouse, and your dad will be living with what's-her-name.

I know how this story ends; I think about it a lot. I also think a lot about how it began, just a few years ago, when ships appeared in orbit and artifacts appeared in meadows. The government said next to nothing about them, while the tabloids said every possible thing.

And then I got a phone call, a request for a meeting.

* * *

I spotted them waiting in the hallway, outside my office. They made an odd couple; one wore a military uniform and a crew cut, and carried an aluminum briefcase. He seemed to be assessing his

*Think of the title 'Story of Your Life', and make predictions, what it is about.*

*Usually, the stories start with a setting – the scene, the characters, time.*
*What facts do we learn from this introduction/exposition?*
*Are they important?*

*Who is the protagonist of the story?*
*What do we know about her?*
*How old is she?*
*When do you think the events presented here happened? At what point in her life?*

*Whom do you think she is telling the story?*

*Who is the protagonist of the story?*
*What do we know about her?*
*How old is she?*

*<u>Foreshadowing</u>*

*Pick up the "spoilers". Why do you think the author lets us know some of the future so early in the story?*

*Why does the author use the second-person narrative to frame the daughter's being told the story by Louise?*
*How effective is such style of writing?*

[5] conceive - to become pregnant, or to cause a baby to begin to form
[6] sappy - silly and sentimental; full of unnecessary emotion

surroundings with a critical eye. The other one was easily identifiable as an academic: full beard and mustache, wearing corduroy. He was browsing through the overlapping sheets stapled to a bulletin board nearby.

"Colonel Weber, I presume?" I shook hands with the soldier. "Louise Banks."

"Dr. Banks. Thank you for taking the time to speak with us," he said.

"Not at all; any excuse to avoid the faculty meeting." Colonel Weber indicated his companion. "This is Dr. Gary Donnelly, the physicist I mentioned when we spoke on the phone."

"Call me Gary," he said as we shook hands. "I'm anxious to hear what you have to say."

We entered my office. I moved a couple of stacks of books off the second guest chair, and we all sat down. "You said you wanted me to listen to a recording. I presume this has something to do with the aliens?"

"All I can offer is the recording," said Colonel Weber.

"Okay, let's hear it."

Colonel Weber took a tape machine out of his briefcase and pressed play. The recording sounded vaguely[7] like that of a wet dog shaking the water out of its fur.

"What do you make of that?" he asked.

I withheld[8] my comparison to a wet dog. "What was the context in which this recording was made?"

"I'm not at liberty to say."

"It would help me interpret those sounds. Could you see the alien while it was speaking? Was it doing anything at the time?"

"The recording is all I can offer."

"You won't be giving anything away if you tell me that you've seen the aliens; the public's assumed you have."

Colonel Weber wasn't budging. "Do you have any opinion about its linguistic properties?" he asked.

"Well, it's clear that their vocal tract is substantially different from a human vocal tract. I assume that these aliens don't look like humans?"

The colonel was about to say something noncommittal[9] when Gary Donelly asked, "Can you make any guesses based on the tape?"

"Not really. It doesn't sound like they're using a larynx to make those sounds, but that doesn't tell me what they look like."

"Anything— is there anything else you can tell us?" asked Colonel Weber.

I could see he wasn't accustomed to consulting a civilian. "Only that establishing communications is going to be really difficult because of the difference in anatomy. They're almost certainly using sounds that the human vocal tract can't reproduce, and maybe sounds that the human ear can't distinguish."

*Try to explain, why Louise switches from the Present Tenses to Past so abruptly?*

*Sum up. What is the reason for Colonel Weber's visit? What is already known about the aliens?*

[7] vague - not clear in a person's mind
[8] withhold - refuse to give sth. to sb.
[9] noncommittal - not giving an opinion; not showing which side of an argument you agree with

"You mean infra-or ultrasonic frequencies?" asked Gary Donelly.

"Not specifically. I just mean that the human auditory system isn't an absolute acoustic instrument; it's optimized to recognize the sounds that a human larynx makes. With an alien vocal system, all bets are off[10]." I shrugged. "Maybe we'll be able to hear the difference between alien phonemes, given enough practice, but it's possible our ears simply can't recognize the distinctions they consider meaningful. In that case we'd need a sound spectrograph to know what an alien is saying."

**Larynx:** the area at the top of the throat that contains the vocal cords

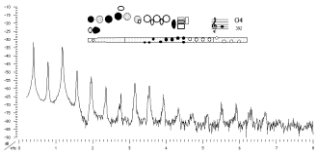
Colonel Weber asked, "Suppose I gave you an hour's worth of recordings; how long would it take you to determine if we need this sound spectrograph or not?"

**Spectrograph:** a visual representation of an acoustic signal; an instrument that obtains a sound spectrum by analyzing a complex sound into its component elements

"I couldn't determine that with just a recording no matter how much time I had. I'd need to talk with the aliens directly."

The colonel shook his head. "Not possible."

I tried to break it to him gently. "That's your call, of course. But the only way to learn an unknown language is to interact with a native speaker, and by that I mean asking questions, holding a conversation, that sort of thing. Without that, it's simply not possible. So if you want to learn the aliens' language, someone with training in field linguistics— whether it's me or someone else— will have to talk with an alien. Recordings alone aren't sufficient."



Colonel Weber frowned. "You seem to be implying that no alien could have learned human languages by monitoring our broadcasts."

"I doubt it. They'd need instructional material specifically designed to teach human languages to nonhumans. Either that, or interaction with a human. If they had either of those, they could learn a lot from TV, but otherwise, they wouldn't have a starting point."

The colonel clearly found this interesting; evidently his philosophy was, the less the aliens knew, the better. Gary Donnelly read the colonel's expression too and rolled his eyes. I suppressed a smile.

*How does Louise manipulate Colonel Weber into offering her the job? Underline the manipulative words.*

Then Colonel Weber asked, "Suppose you were learning a new language by talking to its speakers; could you do it without teaching them English?"

"That would depend on how cooperative the native speakers were. They'd almost certainly pick up bits[11] and pieces while I'm learning their language, but it wouldn't have to be much if they're willing to teach. On the other hand, if they'd rather learn English than teach us their language, that would make things far more difficult."

The colonel nodded. "I'll get back to you on this matter."

[10] all bets are off - used to say that if a particular event happens then your current prediction, agreement, etc. will no longer apply

[11] bits and pieces - small things or jobs of different types

* * *

The request for that meeting was perhaps the second most momentous[12] phone call in my life. The first, of course, will be the one from Mountain Rescue. At that point your dad and I will be speaking to each other maybe once a year, tops. After I get that phone call, though, the first thing I'll do will be to call your father.

He and I will drive out together to perform the identification, a long silent car ride. I remember the morgue, all tile and stainless steel, the hum of refrigeration and smell of antiseptic. An orderly[13] will pull the sheet back to reveal your face. Your face will look wrong somehow, but I'll know it's you.

"Yes, that's her," I'll say. "She's mine."

You'll be twenty-five then.

*Why does Louisa/Ted Chiang let us know about the girl's death so early in the story?*

*Connect*
*What do you think about having an ability to see the future? Would you welcome this chance?*

* * *

The MP checked my badge, made a notation on his clipboard, and opened the gate; I drove the off-road vehicle into the encampment, a small village of tents pitched by the Army in a farmer's sun-scorched pasture. At the center of the encampment was one of the alien devices, nicknamed "looking glasses."

**Encampment** a group of tents, huts, etc. where people live together, usually for only a short period of time

According to the briefings I'd attended, there were nine of these in the United States, one hundred and twelve in the world. The looking glasses acted as two-way communication devices, presumably with the ships in orbit. No one knew why the aliens wouldn't talk to us in person; fear of cooties, maybe. A team of scientists, including a physicist and a linguist, was assigned to each looking glass; Gary Donnelly and I were on this one.

Gary was waiting for me in the parking area. We navigated a circular maze of concrete barricades until we reached the large tent that covered the looking glass itself. In front of the tent was an equipment cart loaded with goodies borrowed from the school's phonology lab; I had sent it ahead for inspection by the Army.

Also outside the tent were three tripod-mounted video cameras whose lenses peered, through windows in the fabric wall, into the main room. Everything Gary and I did would be reviewed by countless others, including military intelligence. In addition, we would each send daily reports, of which mine had to include estimates on how much English I thought the aliens could understand.

**Military intelligence:** a government organization that collects information about the secret plans and activities of a foreign government, enemy etc

Gary held open the tent flap and gestured for me to enter. "Step right up," he said, circus barker— style. "Marvel[14] at creatures the likes of which have never been seen on God's green earth."

"And all for one slim dime," I murmured, walking through the door. At the moment the looking glass was inactive, resembling a semicircular mirror over ten feet high and twenty feet across. On the brown grass in front of the looking glass, an arc of white spray paint outlined the activation area. Currently the area contained only a table, two folding chairs, and a power strip with a cord leading to a generator outside. The buzz of fluorescent lamps, hung from poles along the edge of the room, commingled with the buzz of flies in the sweltering heat.

*What does it mean: "And all for one slim dime"?*

Gary and I looked at each other, and then began pushing the cart of equipment up to the table. As we crossed the paint line, the looking glass appeared to grow transparent; it was as if someone was slowly

raising the illumination behind tinted glass. The illusion of depth was uncanny[15]; I felt I could walk right into it. Once the looking glass was fully lit it resembled a life-size diorama of a semicircular room. The room contained a few large objects that might have been furniture, but no aliens. There was a door in the curved rear wall.

We busied ourselves connecting everything together: microphone, sound spectrograph, portable computer, and speaker. As we worked, I frequently glanced at the looking glass, anticipating the aliens' arrival. Even so I jumped when one of them entered.

It looked like a barrel suspended at the intersection of seven limbs. It was radially symmetric, and any of its limbs could serve as an arm or a leg. The one in front of me was walking around on four legs, three non-adjacent arms curled up at its sides. Gary called them "heptapods."

I'd been shown videotapes, but I still gawked[16]. Its limbs had no distinct joints; anatomists guessed they might be supported by vertebral columns. Whatever their underlying structure, the heptapod's limbs conspired to move it in a disconcertingly[17] fluid manner. Its "torso" rode atop the rippling limbs as smoothly as a hovercraft.

Seven lidless eyes ringed the top of the heptapod's body. It walked back to the doorway from which it entered, made a brief sputtering sound, and returned to the center of the room followed by another heptapod; at no point did it ever turn around. Eerie[18], but logical; with eyes on all sides, any direction might as well be "forward."

Gary had been watching my reaction. "Ready?" he asked.

I took a deep breath. "Ready enough." I'd done plenty of fieldwork before, in the Amazon, but it had always been a bilingual procedure: either my informants knew some Portuguese, which I could use, or I'd previously gotten an intro to their language from the local missionaries. This would be my first attempt at conducting a true monolingual discovery procedure. It was straightforward enough in theory, though.

I walked up to the looking glass and a heptapod on the other side did the same. The image was so real that my skin crawled. I could see the texture of its gray skin, like corduroy ridges arranged in whorls and loops. There was no smell at all from the looking glass, which somehow made the situation stranger.

I pointed to myself and said slowly, "Human." Then I pointed to Gary. "Human." Then I pointed at each heptapod and said, "What are you?"

No reaction. I tried again, and then again.

One of the heptapods pointed to itself with one limb, the four terminal digits pressed together. That was lucky. In some cultures a person pointed with his chin; if the heptapod hadn't used one of its

**Diorama**/ˌdaɪəˈrɑːmə/a model representing a scene with figures, especially in a museum

*What do you think about Ted Chiang's description of the aliens?*
*How different is it from other descriptions that you have read in other books/seen in the movies?*
*(think about Kurt Vonnegut and his Transfamadorians for example. Or Andy Weir's alien from "Hail Mary" novel. Or more ordinary, 'humanoid' representations of the aliens)*

**Fieldwork:** research or study that is done in the real world rather than in a library or laboratory

[12] momentous - very important or serious
[13] orderly - a person who works in a hospital, doing jobs that do not need any special training
[14] marvel - be very surprised or impressed by sth.
[15] uncanny - strange or mysterious, often in a way that is slightly frightening
[16] gawk - stare at sb./sth. in a rude or stupid way - gape
[17] disconcert - make sb. feel anxious, confused or embarrassed - disturb
[18] eerie - strange, mysterious and frightening

limbs, I wouldn't have known what gesture to look for. I heard a brief fluttering sound, and saw a puckered orifice[19] at the top of its body vibrate; it was talking. Then it pointed to its companion and fluttered again.

I went back to my computer; on its screen were two virtually identical spectrographs representing the fluttering sounds. I marked a sample for playback. I pointed to myself and said "Human" again, and did the same with Gary. Then I pointed to the heptapod, and played back the flutter on the speaker.

The heptapod fluttered some more. The second half of the spectrograph for this utterance looked like a repetition: call the previous utterances [flutter1], then this one was [flutter2-flutter1].

I pointed at something that might have been a heptapod chair. "What is that?"

The heptapod paused, and then pointed at the "chair" and talked some more. The spectrograph for this differed distinctly from that of the earlier sounds: [flutter3]. Once again, I pointed to the "chair" while playing back [flutter3].

The heptapod replied; judging by the spectrograph, it looked like [flutter3flutter2]. Optimistic interpretation: the heptapod was confirming my utterances as correct, which implied compatibility[20] between heptapod and human patterns of discourse. Pessimistic interpretation: it had a nagging[21] cough.

At my computer I delimited certain sections of the spectrograph and typed in a tentative[22] gloss for each: "heptapod" for [flutter1], "yes" for [flutter2], and "chair" for [flutter3]. Then I typed "Language: Heptapod A" as a heading for all the utterances.

Gary watched what I was typing. "What's the 'A' for?"

"It just distinguishes this language from any other ones the heptapods might use," I said. He nodded.

"Now let's try something, just for laughs." I pointed at each heptapod and tried to mimic the sound of [flutter1], "heptapod." After a long pause, the first heptapod said something and then the second one said something else, neither of whose spectrographs resembled anything said before. I couldn't tell if they were speaking to each other or to me since they had no faces to turn. I tried pronouncing [flutter1] again, but there was no reaction.

"Not even close," I grumbled.

"I'm impressed you can make sounds like that at all," said Gary.

"You should hear my moose[23] call. Sends them running."

I tried again a few more times, but neither heptapod responded with anything I could recognize. Only when I replayed the recording of the heptapod's pronunciation did I get a confirmation; the heptapod replied with [flutter2], "yes."

"So we're stuck with using recordings?" asked Gary.

I nodded. "At least temporarily."

"So now what?"

*Notice specific features of the aliens' speech.*

*What similarities of human and alien discourse does she write here about? Can you predict any more similarities or discrepancies?*

**Discourse:** the use of language in speech and writing in order to produce meaning; language that is studied, usually in order to see how the different parts of a text are connected

**Gloss:** A brief notation, especially a marginal one or an interlinear one, of the meaning of a word or wording in a text.

[19] orifice - a hole or opening, especially one in the body
[20] compatibility - ability of people or things to live or exist together without problems
[21] nagging - difficult to cure or remove
[22] tentative - not definite, or not certain
[23] moose - a large deer that lives in North America

"Now we make sure it hasn't actually been saying 'aren't they cute' or 'look what they're doing now.' Then we see if we can identify any of these words when that other heptapod pronounces them." I gestured for him to have a seat. "Get comfortable; this'll take a while."

* * *

In 1770, Captain Cook's ship Endeavour ran aground on the coast of Queensland, Australia. While some of his men made repairs, Cook led an exploration party and met the aboriginal people. One of the sailors pointed to the animals that hopped around with their young riding in pouches, and asked an aborigine what they were called. The aborigine replied, "Kanguru." From then on Cook and his sailors referred to the animals by this word. It wasn't until later that they learned it meant "What did you say?"

I tell that story in my introductory course every year. It's almost certainly untrue, and I explain that afterwards, but it's a classic anecdote. Of course, the anecdotes my undergraduates will really want to hear are ones featuring the heptapods; for the rest of my teaching career, that'll be the reason many of them sign up for my courses. So I'll show them the old videotapes of my sessions at the looking glass, and the sessions that the other linguists conducted; the tapes are instructive, and they'll be useful if we're ever visited by aliens again, but they don't generate many good anecdotes.

When it comes to language-learning anecdotes, my favorite source is child language acquisition. I remember one afternoon when you are five years old, after you have come home from kindergarten. You'll be coloring with your crayons while I grade papers.

"Mom," you'll say, using the carefully casual tone reserved for requesting a favor, "can I ask you something?"

"Sure, sweetie. Go ahead."

"Can I be, um, honored?"

I'll look up from the paper I'm grading. "What do you mean?"

"At school Sharon said she got to be honored."

"Really? Did she tell you what for?"

"It was when her big sister got married. She said only one person could be, um, honored, and she was it."

"Ah, I see. You mean Sharon was maid of honor?"

"Yeah, that's it. Can I be made of honor?"

*Do you know similar anecdotes or "child language acquisition" mistakes?*

* * *

Gary and I entered the prefab building containing the center of operations for the looking glass site. Inside it looked like they were planning an invasion, or perhaps an evacuation: crewcut soldiers worked around a large map of the area, or sat in front of burly electronic gear while speaking into headsets. We were shown into Colonel Weber's office, a room in the back that was cool from air conditioning.

We briefed the colonel on our first day's results. "Doesn't sound like you got very far," he said.

"I have an idea as to how we can make faster progress," I said. "But you'll have to approve the use of more equipment."

"What more do you need?"

"A digital camera, and a big video screen." I showed him a drawing of the setup I imagined. "I want to try conducting the discovery procedure using writing; I'd display words on the screen, and use the camera to record the words they write. I'm hoping the heptapods will do the same."

Weber looked at the drawing dubiously. "What would be the advantage of that?"

"So far I've been proceeding the way I would with speakers of an unwritten language. Then it occurred to me that the heptapods must have writing, too."

"So?"

"If the heptapods have a mechanical way of producing writing, then their writing ought to be very regular, very consistent. That would make it easier for us to identify graphemes instead of phonemes. It's like picking out the letters in a printed sentence instead of trying to hear them when the sentence is spoken aloud."

"I take your point," he admitted. "And how would you respond to them? Show them the words they displayed to you?"

"Basically. And if they put spaces between words, any sentences we write would be a lot more intelligible[24] than any spoken sentence we might splice together from recordings."

He leaned back in his chair. "You know we want to show as little of our technology as possible."

"I understand, but we're using machines as intermediaries already. If we can get them to use writing, I believe progress will go much faster than if we're restricted to the sound spectrographs."

The colonel turned to Gary. "Your opinion?"

"It sounds like a good idea to me. I'm curious whether the heptapods might have difficulty reading our monitors. Their looking glasses are based on a completely different technology than our video screens. As far as we can tell, they don't use pixels or scan lines, and they don't refresh on a frame-by-frame basis."

"You think the scan lines on our video screens might render them unreadable to the heptapods?"

"It's possible," said Gary. "We'll just have to try it and see."

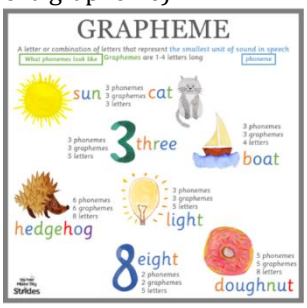
Weber considered it. For me it wasn't even a question, but from his point of view it was a difficult decision; like a soldier, though, he made it quickly. "Request granted. Talk to the sergeant outside about bringing in what you need. Have it ready for tomorrow."

* * *

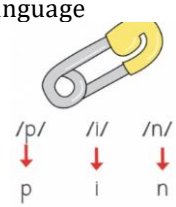
I remember one day during the summer when you're sixteen. For once, the person waiting for her date to arrive is me. Of course, you'll be waiting around too, curious to see what he looks like. You'll have a friend of yours, a blond girl with the unlikely name of Roxie, hanging out with you, giggling.

"You may feel the urge to make comments about him," I'll say, checking myself in the hallway mirror. "Just restrain yourselves until we leave."

**Grapheme:**
the smallest functional unit in a writing unit that corresponds with sounds (the letter "s" is an example of a grapheme).




**Phoneme:** any of the abstract units of the phonetic system of a language that correspond to a set of similar speech sounds which are perceived to be a single distinctive sound in the language




*How did linguistic work progress?*
*Why was it hard to work only with verbal material?*
*Why did Louise need extra equipment?*

[24] intelligible - can be easily understood

"Don't worry, Mom," you'll say. "We'll do it so that he won't know. Roxie, you ask me what I think the weather will be like tonight. Then I'll say what I think of Mom's date."

"Right," Roxie will say.

"No, you most definitely will not," I'll say.

"Relax, Mom. He'll never know; we do this all the time."

"What a comfort that is."

A little later on, Nelson will arrive to pick me up. I'll do the introductions, and we'll all engage in a little small talk on the front porch. Nelson is ruggedly[25] handsome, to your evident approval. Just as we're about to leave, Roxie will say to you casually, "So what do you think the weather will be like tonight?"

"I think it's going to be really hot," you'll answer.

Roxie will nod in agreement. Nelson will say, "Really? I thought they said it was going to be cool."

"I have a sixth sense about these things," you'll say. Your face will give nothing away. "I get the feeling it's going to be a scorcher. Good thing you're dressed for it, Mom."

I'll glare at you, and say good night.

As I lead Nelson toward his car, he'll ask me, amused, "I'm missing something here, aren't I?"

"A private joke," I'll mutter. "Don't ask me to explain it."

*What is revealed about the daughter and her character in this and other episodes with her?*

*What kind of relationship does Louise have with her daughter?*

* * *

At our next session at the looking glass, we repeated the procedure we had performed before, this time displaying a printed word on our computer screen at the same time we spoke: showing human while saying "Human," and so forth. Eventually, the heptapods understood what we wanted, and set up a flat circular screen mounted on a small pedestal. One heptapod spoke, and then inserted a limb into a large socket in the pedestal; a doodle of script, vaguely cursive, popped onto the screen.

We soon settled into a routine, and I compiled two parallel corpora: one of spoken utterances, one of writing samples. Based on first impressions, their writing appeared to be logo-graphic, which was disappointing; I'd been hoping for an alphabetic script to help us learn their speech. Their logograms might include some phonetic information, but finding it would be a lot harder than with an alphabetic script.

By getting up close to the looking glass, I was able to point to various heptapod body parts, such as limbs, digits, and eyes, and elicit terms for each. It turned out that they had an orifice on the underside of their body, lined with articulated bony ridges: probably used for eating, while the one at the top was for respiration and speech. There were no other conspicuous[26] orifices; perhaps their mouth was their anus too. Those sorts of questions would have to wait.

I also tried asking our two informants for terms for addressing each individually; personal names, if they had such things. Their answers were of course unpronounceable, so for Gary's and my

**Corpora** (plural for "Corpus") a large and structured set of texts.

**Logographic**: A written character that represents a word. Chinese characters are generally logograms. Each character does not represent individual sounds.

**Alphabetic**: A standardized set of written symbols or graphemes that represent the phonemes of certain spoken languages (for example, the letter [grapheme] "s" represents the sound [phoneme] "s").

*Why does Louise sound so disappointed with this linguistic discovery?*

*Comment on the names she gave to the heptapods. Do*

[25] ruggedly - in a strong, attractive way

[26] conspicuous - easy to see or notice

purposes, I dubbed them Flapper and Raspberry. I hoped I'd be able to tell them apart.

*they sound like aliens' names?*

* * *

The next day I conferred with Gary before we entered the looking-glass tent. "I'll need your help with this session," I told him.

"Sure. What do you want me to do?"

"We need to elicit some verbs, and it's easiest with third-person forms. Would you act out a few verbs while I type the written form on the computer? If we're lucky, the heptapods will figure out what we're doing and do the same. I've brought a bunch of props for you to use."

*Pay attention to this short "glimpse" on Gary's character. What kind of person he seems to be?*

"No problem," said Gary, cracking his knuckles. "Ready when you are."

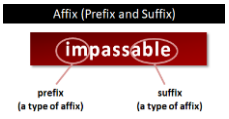
We began with some simple intransitive verbs: walking, jumping, speaking, writing. Gary demonstrated each one with a charming lack of self-consciousness; the presence of the video cameras didn't inhibit[27] him at all. For the first few actions he performed, I asked the heptapods, "What do you call that?" Before long, the heptapods caught on to what we were trying to do; Raspberry began mimicking Gary, or at least performing the equivalent heptapod action, while Flapper worked their computer, displaying a written description and pronouncing it aloud.

*How is heptapod's writing different from their oral language?*
*Discuss the peculiarities of the heptapods' oral and written language.*
*Is there any connection between their anatomy and their language?*

In the spectrographs of their spoken utterances, I could recognize their word I had glossed as "heptapod." The rest of each utterance was presumably the verb phrase; it looked like they had analogs of nouns and verbs, thank goodness.

In their writing, however, things weren't as clear-cut. For each action, they had displayed a single logogram instead of two separate ones. At first I thought they had written something like "walks," with the subject implied. But why would Flapper say "the heptapod walks" while writing "walks," instead of maintaining parallelism? Then I noticed that some of the logograms looked like the logogram for "heptapod" with some extra strokes added to one side or another. Perhaps their verbs could be written as affixes to a noun. If so, why was Flapper writing the noun in some instances but not in others?

**Affix** a letter or group of letters added to the beginning or end of a word to change its meaning.
The prefix un- in unhappy a nd the suffix -
less in careless are both affixes.




I decided to try a transitive verb; substituting object words might clarify things. Among the props I'd brought were an apple and a slice of bread. "Okay," I said to Gary, "show them the food, and then eat some. First the apple, then the bread."

Gary pointed at the Golden Delicious and then he took a bite out of it, while I displayed the "what do you call that?" expression. Then we repeated it with the slice of whole wheat.

Raspberry left the room and returned with some kind of giant nut or gourd and a gelatinous ellipsoid. Raspberry pointed at the gourd while Flapper said a word and displayed a logogram. Then Raspberry brought the gourd down between its legs, a crunching sound resulted, and the gourd reemerged minus a bite; there were corn-like kernels beneath the shell. Flapper talked and displayed a large logogram on their screen. The sound spectrograph for "gourd" changed when it was used in the sentence; possibly a case marker. The logogram was odd:

**Ligature**: In hand-writing, a ligature is made by joining two or more characters in an atypical fashion by

[27] inhibit - make somebody nervous or embarrassed so that they are unable to do something

after some study, I could identify graphic elements that resembled the individual logograms for "heptapod" and "gourd." They looked as if they had been melted together, with several extra strokes in the mix that presumably meant "eat." Was it a multi-word ligature?

Next we got spoken and written names for the gelatin egg, and descriptions of the act of eating it. The sound spectrograph for "heptapod eats gelatin egg" was analyzable; "gelatin egg" bore a case marker, as expected, though the sentence's word order differed from last time. The written form, another large logogram, was another matter. This time it took much longer for me to recognize anything in it; not only were the individual logograms melted together again, it looked as if the one for "heptapod" was laid on its back, while on top of it the logogram for "gelatin egg" was standing on its head.

"Uh-oh." I took another look at the writing for the simple noun-verb examples, the ones that had seemed inconsistent before. Now I realized all of them actually did contain the logogram for "heptapod"; some were rotated and distorted by being combined with the various verbs, so I hadn't recognized them at first. "You guys have got to be kidding," I muttered.

"What's wrong?" asked Gary.

"Their script isn't word divided; a sentence is written by joining the logograms for the constituent words. They join the logograms by rotating and modifying them. Take a look." I showed him how the logograms were rotated.

"So they can read a word with equal ease no matter how it's rotated," Gary said. He turned to look at the heptapods, impressed. "I wonder if it's a consequence of their bodies' radial symmetry: their bodies have no 'forward' direction, so maybe their writing doesn't either. Highly neat."

I couldn't believe it; I was working with someone who modified the word "neat" with "highly." "It certainly is interesting," I said, "but it also means there's no easy way for us to write our own sentences in their language. We can't simply cut their sentences into individual words and recombine them; we'll have to learn the rules of their script before we can write anything legible. It's the same continuity problem we'd have had splicing together speech fragments, except applied to writing."

I looked at Flapper and Raspberry in the looking glass, who were waiting for us to continue, and sighed. "You aren't going to make this easy for us, are you?"

merging their parts, or by writing one above or inside each other.

*What methods of field linguistics do you recognize in this part?*

*Comment on the non-traditional composition of the story.*

## Assignment 1.

**VOCABULARY SECTION for SELF-STUDY**

***1. Learn the meaning of these words, recall the context they were used in:***

sappy_____
to conceive_____
vague_____
to withhold_____
noncommittal_____
all bets are off_____
bits and pieces_____
momentous_____
orderly_____
to marvel_____
uncanny_____
to gawk_____
to disconcert_____
eerie_____
orifice_____
compatibility_____
nagging cough_____
tentative_____
moose_____
intelligible_____
ruggedly_____
conspicuous_____
to inhibit sb_____

***2. Match the words with the definitions***

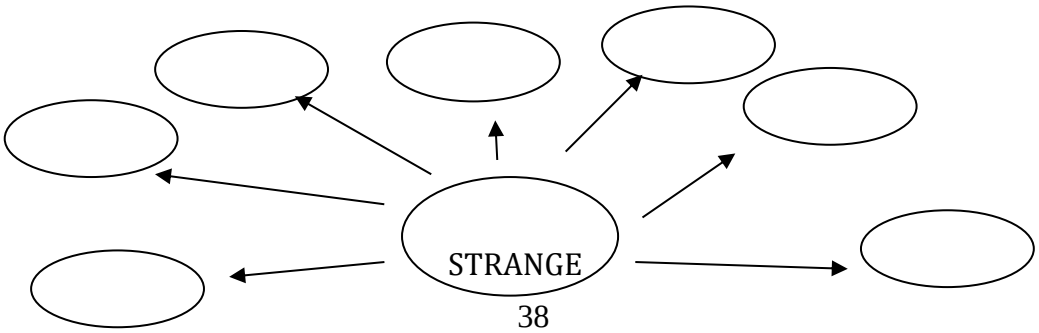
| | | |
|---|---|---|
| 1. orderly | ____ | a) become pregnant |
| 2. orifice | ____ | b) make somebody nervous or embarrassed |
| 3. compatibility | ____ | c) a person who works in a hospital |
| 4. marvel | ____ | d) make somebody feel anxious, confused or embarrassed |
| 5. gawk | ____ | e) stare at sb/sth in a rude or stupid way |
| 6. withhold | ____ | f) a hole or opening, especially one in the body |
| 7. inhibit | ____ | g) refuse to give sth to sb |
| 8. disconcert | ____ | h) be very surprised or impressed |
| 9. conceive | ____ | i) ability to live or exist together without problems |

***3. Create as many collocations as possible. Explain their possible meaning.***

| | |
|---|---|
| *momentous rugged*<br>*eerie uncanny vague*<br>*sappy conspicuous*<br>*nagging* | *decision recollection occasion*<br>*event doubts feeling wife*<br>*good looks impression pain*<br>*feature memory movie place*<br>*images couple success* |

***4. Synonyms***

Using dictionaries pick up the synonyms and antonyms of the word STRANGE.
The words used in this part of the story: *uncanny, eerie, incongruous*… Continue the list.
What shades of meanings do they have? What situations can they be used in?



## *5. Vocabulary self-check questions*

1. «With the current situation, **all bets are off**» she shrugged. The expression means:

A) The outcome of the situation is already known
B) That you can predict the outcome of the situation
C) That you bet on games
D) The outcome of the situation is unpredictable

2. If you listen to a **sappy** story, it means that it is…

A) Funny and romantic
B) Sad or romantic in a foolish or exaggerated way
C) Boring and casual
D) Unsentimental

3. She understood that she **conceived** a baby. The word in bold means:

A) Disappointed
B) In love
C) Confused
D) Pregnant

4. I **withheld** my comparison with lazy fat cat. The word in bold means:

A) To share your thoughts with the person
B) To hold back your thoughts/words
C) To provide a person with certain information
D) To compliment the person

5. To move abroad was the second **momentous** decision in my life. The word in bold means:

A) Very important
B) Instant
C) Immediate
D) Invaluable

6. I didn't know what to do, so I just stood there **gawking** at videotapes. The word in the bold means:

A) To look at someone/something with interest
B) To stare at someone/something a long time
C) To look at someone/something carefully
D) To stare at someone/something in a stupid or rude way

7. I often **marvel** that humans can treat each other so badly. The word in bold means:

A) To feel sorry
B) To be embarrassed
C) To show disappointment
D) To show or experience great surprise

8. We saw an **eerie** green glow in the sky. The word in bold means:

A) Beautiful
B) Strange, mysterious
C) Perfect
D) Breathtaking

9. If your speech or writing is **intelligible**, it means that it is:

A) Clear and understandable
B) Slurred
C) Hard to understand
D) Fluent

10. In China her blonde hair was **conspicuous**. The word in bold means:

A) Awful
B) Easily noticeable
C) Attractive
D) Ordinary

11. It was **uncanny** the way that she always knew what he was thinking. The word in bold means:

A) Normal
B) Strange
C) Usual
D) Scaring

12. He was **ruggedly** handsome. The word in bold means:

A) partly
B) Hardly
C) Extremely
D) Quite

13. He has a part-time job as **an orderly**. The word in bold means:

A) A waiter in a cafe
B) A hospital worker
C) An assistant in office
D) A secretary

***6. Explain the meaning of the following words. Review the context they were used in:***

Larynx, phoneme, grapheme, sound spectrograph, encampment, gloss, military intelligence, heptapods, diorama, linguistics, fieldwork, discourse, ligature, small talk, corpora, logographic / alphabetic writing, affix

***7. Stylistics and translation.*** Identify stylistic means and devices applied in the following sentences. Translate the sentences into Ukrainian:

1. …so he humors me and now we're slow-dancing, a pair of thirtysomethings swaying back and forth in the moon-light like kids.
2. The recording sounded vaguely like that of a wet dog shaking the water out of its fur.
3. I walked up to the looking glass and a heptapod on the other side did the same. The image was so real that my skin crawled. I could see the texture of its gray skin, like corduroy ridges arranged in whorls and loops.
4. "Step right up," he said, circus-barker-style. "Marvel at creatures the likes of which have never been seen on God's green earth."
5. It looked like a barrel suspended at the intersection of seven limbs. It was radially symmetric, and any of its limbs could serve as an arm or a leg. The one in front of me was walking around on four legs, three non-adjacent arms curled up at its sides.
6. Whatever their underlying structure, the heptapod's limbs conspired to move it in a disconcertingly fluid manner. Its "torso" rode atop the rippling limbs as smoothly as a hovercraft.

***8. Translate these sentences into English.*** *Use as many expressions from the active vocabulary list as possible.*

1. Ханна була настільки збентежена і схвильована його надприродними силами і моторошним виконанням трюку, що вона не могла сказати про це нічого зрозумілого і утримала від будь -яких коментарів.
2. Дівчина дивилася сентиментальну мелодраму, і вона нагадала їй того суворо красивого чоловіка, якого вона бачила на знаменній конференції в Празі. Тоді її сором'язливість, що кидалась в очі, не дозволила їй зробити навіть боязке, розпливчасте або ухильне зауваження, коли він був поруч.
3. Жінка не була прискіпливою дружиною, і її чоловік завжди захоплювався її надприродною силою волі до того, щоб відновити їх відносини зі шматочків, які він залишив їй після свого сентиментального роману з колегою.

**DISCUSSION**

***1. Questions.*** Reread the story. Prepare in writing 3-5 specific questions to Part 1 that you think are worth discussion.

***2. Composition and type of presentation.*** Comment on the non-traditional composition of the story. Pay attention to the elements of *Foreshadowing* and the use of grammar (Tenses in particular). Why does the author use the second-person narrative and how does it influence the reader's perception of the story? How effective is such style of writing?

***3. Themes.*** Some of the major themes that this story deals with include *motherhood*, *linguistic discovery*, *free will*, *scientific progress* and others. Identify the themes presented in Part 1 and be ready to talk about them. Base your ideas on the text, be ready to offer your commentary to specific extracts.

**9.Self-check multiple-choice questions to the content of Part 1**

1. When did Louise's husband ask her whether she wanted to have a baby?
   a) When they were having dinner
   b) When they were talking about their future
   c) When they were dancing
2. What did Dr. Banks ask Colonel Weber for interpreting the aliens' sounds?
   a) Only a sound spectrograph and 1 hour of time
   b) The possibility to talk with the aliens directly
   c) The copy of the tape and the sound spectrograph
3. How old would Louise's daughter be when she would die?
   a) It wasn't mentions in the text
   b) She would be 20
   c) She would be 25
4. Who worked with Dr. Banks in the tent where there was a "looking glass"?
   a) Colonel Weber
   b) She worked alone
   c) Gary Donnelly
5. In the context of the story, what was a looking glass?
   a) A device for communication with the aliens designed and constructed by humans.
   b) A device for communication planted on earth by the aliens.
   c) A mirror sent to earth by the aliens.
6. How did Gary call aliens?
   a) Heptapods
   b) Kanguru
   c) Flappers
7. What story did Louise tell in her introductory course every year?
   a) Captain Cook and "Kanguru"
   b) Child language acquisition
   c) Videotapes about the aliens
8. Who gave the names to two heptapods?
   a) Dr. Banks
   b) Colonel Weber
   c) Gary Donnelly
9. How many orifices did hyptapods have?
   a) 10
   b) 1
   c) 2
10. How did the alien's body look like?
    a) They had radial symmetry
    b) They had square symmetry
    c) They had horizontal symmetry
11. What was the reason that Colonel Weber was reluctant to reveal too much human technology to the heptapods?
    a) He did not want Dr. Banks to get too much power, or too over-confident.
    b) He did not want to give away anything that revealed the humans' technological advancement.
    c) He didn't want the heptapods to think that humans were too stupid & couldn't communicate without technology.
12. How did Dr. Banks classify heptapod writing, based on first impressions?
    a) She believed that it was logographic
    b) She believed that it was semagraphic
    c) She believed that it was phonetic
13. What did Dr. Banks need Dr. Donnelly's help to do?
    a) learnt heptapod physical laws
    b) solved a dispute between Flapper and Raspberry
    c) act out verbs so that they can learn the heptapod equivalent
14. Why did the heptapods never turn around?
    a) Every direction was forward because their limbs were arranged in a circle
    b) The scientists had no idea
    c) They were suspicious of the humans
15. Was heptapod scrip divided into words?
    a) no, they joined the logograms by rotating and modifying them
    b) no, it could be divided only in compound sentences
    c) yes, but only certain words

## *Ted Chiang*
## Story of Your Life

## Part 2.

* * *

To be fair, the heptapods were completely cooperative. In the days that followed, they readily taught us their language without requiring us to teach them any more English. Colonel Weber and his cohorts pondered the implications[28] of that, while I and the linguists at the other looking glasses met via videoconferencing to share what we had learned about the heptapod language. The videoconferencing made for an incongruous[29] working environment: our video screens were primitive compared to the heptapods' looking glasses, so that my colleagues seemed more remote than the aliens. The familiar was far away, while the bizarre was close at hand.

*Regarding their behavior, try to predict, why did the aliens come?*

It would be a while before we'd be ready to ask the heptapods why they had come, or to discuss physics well enough to ask them about their technology. For the time being, we worked on the basics: phonemics/graphemics, vocabulary, syntax. The heptapods at every looking glass were using the same language, so we were able to pool our data and coordinate our efforts.

Our biggest source of confusion was the heptapods' "writing." It didn't appear to be writing at all; it looked more like a bunch of intricate graphic designs. The logograms weren't arranged in rows, or a spiral, or any linear fashion. Instead, Flapper or Raspberry would write a sentence by sticking together as many logograms as needed into a giant conglomeration[30].

*Consider these three options and comment on them.*

This form of writing was reminiscent[31] of primitive sign systems, which required a reader to know a message's context in order to understand it. Such systems were considered too limited for systematic recording of information. Yet it was unlikely that the heptapods developed their level of technology with only an oral tradition. That implied one of three possibilities: the first was that the heptapods had a true writing system, but they didn't want to use it in front of us; Colonel Weber would identify with that one. The second was that the heptapods hadn't originated the technology they were using; they were illiterates using someone else's technology. The third, and most interesting to me, was that was the heptapods were using a nonlinear system of <u>orthography</u> that qualified as true writing.

**Orthography** /ɔː'θɒgrəfi/ the system of spelling in a language

*What might linear / nonlinear system of orthography mean?*

* * *

I remember a conversation we'll have when you're in your junior year of high school. It'll be Sunday morning, and I'll be

[28] implication - a possible effect or result of an action or a decision
[29] incongruous - unusual or different from what is around or from what is generally happening
[30] conglomeration - a mixture of different things that are found all together
[31] to be reminiscent of - reminding you of sb./sth.

scrambling some eggs while you set the table for brunch. You'll laugh as you tell me about the party you went to last night.

"Oh man," you'll say, "they're not kidding when they say that body weight makes a difference. I didn't drink any more than the guys did, but I got so much drunker."

I'll try to maintain a neutral, pleasant expression. I'll really try. Then you'll say, "Oh, come on, Mom."

"What?"

"You know you did the exact same things when you were my age."

I did nothing of the sort, but I know that if I were to admit that, you'd lose respect for me completely. "You know never to drive, or get into a car if—"

"God, of course I know that. Do you think I'm an idiot?"

"No, of course not."

What I'll think is that you are clearly, maddeningly not me. It will remind me, again, that you won't be a clone of me; you can be wonderful, a daily delight, but you won't be someone I could have created by myself.

* * *

The military had set up a trailer containing our offices at the looking glass site. I saw Gary walking toward the trailer, and ran to catch[32] up with him. "It's a semasiographic writing system," I said when I reached him.

"Excuse me?" said Gary.

"Here, let me show you." I directed Gary into my office. Once we were inside, I went to the chalkboard and drew a circle with a diagonal line bisecting it. "What does this mean?"

" 'Not allowed'?"

"Right." Next I printed the words not allowed on the chalkboard. "And so does this. But only one is a representation of speech."

Gary nodded. "Okay."

"Linguists describe writing like this" — I indicated the printed words— "as 'glottographic,' because it represents speech. Every human written language is in this category. However, this symbol" — I indicated the circle and diagonal line— "is 'semasiographic' writing, because it conveys meaning without reference to speech. There's no correspondence between its components and any particular sounds."

"And you think all of heptapod writing is like this?"

"From what I've seen so far, yes. It's not picture writing, it's far more complex. It has its own system of rules for constructing sentences, like a visual syntax that's unrelated to the syntax for their spoken language."

"A visual syntax? Can you show me an example?"

"Coming right up." I sat down at my desk and, using the computer, pulled up a frame from the recording of yesterday's conversation with Raspberry. I turned the monitor so he could see it. "In their spoken language, a noun has a case marker indicating whether it's a subject or object. In their written language, however, a noun is

*What does this 'personal glimpse' say about Louise as a mother?*

**Semasiographic** writing system - images or characters that represent ideas, unrelated to any spoken language.
The usage of a graphic, or visual cue to communicate an idea or action without words.

**Semagram**: a written character in Heptapod B. Dr. Banks suggests this term because written words in Heptapod B do not represent any spoken language.

*Think of other examples of popular signs that convey a message.*

**Glottographic**: writing that represents speech (every human language is like this).

**Case marker** - the form of a noun, an adjective or a pronoun in some languages, that shows its relationship to another word e.g. *the nominative/accusative/ genitive case*

[32] catch up with - reach somebody who is ahead by going faster

identified as subject or object based on the orientation of its logogram relative to that of the verb. Here, take a look." I pointed at one of the figures. "For instance, when 'heptapod' is integrated with 'hears' this way, with these strokes parallel, it means that the heptapod is doing the hearing." I showed him a different one. "When they're combined this way, with the strokes perpendicular, it means that the heptapod is being heard. This morphology applies to several verbs.

"Another example is the inflection system." I called up another frame from the recording. "In their written language, this logogram means roughly 'hear easily' or 'hear clearly.' See the elements it has in common with the logogram for 'hear'? You can still combine it with 'heptapod' in the same ways as before, to indicate that the heptapod can hear something clearly or that the heptapod is clearly heard. But what's really interesting is that the modulation[33] of 'hear' into 'hear clearly' isn't a special case; you see the transformation they applied?"

Gary nodded, pointing. "It's like they express the idea of 'clearly' by changing the curve[34] of those strokes in the middle."

"Right. That modulation is applicable to lots of verbs. The logogram for 'see' can be modulated in the same way to form 'see clearly,' and so can the logogram for 'read' and others. And changing the curve of those strokes has no parallel in their speech; with the spoken version of these verbs, they add a prefix to the verb to express ease of manner, and the prefixes for 'see' and 'hear' are different.

"There are other examples, but you get the idea. It's essentially a grammar in two dimensions."

He began pacing thoughtfully. "Is there anything like this in human writing systems?"

"Mathematical equations, notations for music and dance. But those are all very specialized; we couldn't record this conversation using them. But I suspect, if we knew it well enough, we could record this conversation in the heptapod writing system. I think it's a full-fledged[35], general-purpose graphical language."

Gary frowned. "So their writing constitutes a completely separate language from their speech, right?"

"Right. In fact, it'd be more accurate to refer to the writing system as 'Heptapod B,' and use 'Heptapod A' strictly for referring to the spoken language."

"Hold on a second. Why use two languages when one would suffice[36]? That seems unnecessarily hard to learn."

"Like English spelling?" I said. "Ease of learning isn't the primary force in language evolution. For the heptapods, writing and speech may play such different cultural or cognitive roles that using separate languages makes more sense than using different forms of the same one."

He considered it. "I see what you mean. Maybe they think our form of writing is redundant[37], like we're wasting a second communications channel."

**The inflection system** - A change in the form of a word (typically the ending) to express a grammatical function or attribute such as tense, mood, person, number, case, and gender (e.g. changing "walk" to "walked" makes the verb past tense).

*Explain in your words the specifics of the heptapods' written language.*

Interesting info:
Visual language refers to the idea that communication occurs through visual symbols, as opposed to verbal symbols or words. Contrast to a sentence construction in spoken language with a linear ordering of words, a visual language has a simultaneous structure with a parallel temporal and spatial configuration. ***A two-dimensional*** string or sentence construction of visual expressions - spatial arrangements of symbols, which represent concepts and create visual messages. (https://bit.ly/3416f1z)

*Comment on these ideas. What may be the primary force in language evolution? What cultural and cognitive roles do the languages play?*

[33] modulation - the act of changing the rate at which a sound wave or radio signal vibrates so that it is clearer
[34] curve - a line or surface that bends gradually; a smooth bend
[35] full-fledged – completely developed
[36] suffice - be enough for sb./sth.
[37] redundant - not needed or useful

"That's entirely possible. Finding out why they use a second language for writing will tell us a lot about them."

"So I take it this means we won't be able to use their writing to help us learn their spoken language."

I sighed. "Yeah, that's the most immediate implication. But I don't think we should ignore either Heptapod A or B; we need a two-pronged approach." I pointed at the screen. "I'll bet you that learning their two-dimensional grammar will help you when it comes time to learn their mathematical notation."

*What is the difference between Heptapod A and Heptapod B? Why do you think the heptapods might need two languages?*

"You've got a point there. So are we ready to start asking about their mathematics?"

"Not yet. We need a better grasp on this writing system before we begin anything else," I said, and then smiled when he mimed frustration. "Patience, good sir. Patience is a virtue."

* * *

You'll be six when your father has a conference to attend in Hawaii, and we'll accompany him. You'll be so excited that you'll make preparations for weeks beforehand. You'll ask me about coconuts and volcanoes and surfing, and practice hula dancing in the mirror. You'll pack a suitcase with the clothes and toys you want to bring, and you'll drag it around the house to see how long you can carry it. You'll ask me if I can carry your Etch-a-Sketch in my bag, since there won't be any more room for it in yours and you simply can't leave without it.

*Though the aliens-line in the story is given in chronological order, the daughter-line is random. Do you see any reason for it? What effect does it create? Use different examples to support your ideas.*

"You won't need all of these," I'll say. "There'll be so many fun things to do there, you won't have time to play with so many toys."

You'll consider that; dimples will appear above your eyebrows when you think hard. Eventually you'll agree to pack fewer toys, but your expectations will, if anything, increase.

"I wanna be in Hawaii now," you'll whine.

"Sometimes it's good to wait," I'll say. "The anticipation makes it more fun when you get there."

You'll just pout.

* * *

In the next report I submitted, I suggested that the term "logogram" was a misnomer because it implied that each graph represented a spoken word, when in fact the graphs didn't correspond to our notion of spoken words at all. I didn't want to use the term "ideogram" either because of how it had been used in the past; I suggested the term "semagram" instead.

Clarify:
*Why did Louise have to introduce the term 'semagram' and what does it mean?*

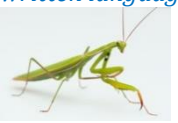
It appeared that a semagram corresponded roughly to a written word in human languages: it was meaningful on its own, and in combination with other semagrams could form endless statements. We couldn't define it precisely, but then no one had ever satisfactorily defined "word" for human languages either. When it came to sentences in Heptapod B, though, things became much more confusing. The language had no written punctuation: its syntax was indicated in the way the semagrams were combined, and there was no need to indicate the cadence of speech. There was certainly no way to slice out subject-predicate pairings neatly to make sentences. A "sentence" seemed to be whatever number of semagrams a heptapod wanted to join

**The cadence of speech** the rise and fall of the voice in speaking. E.g. *He delivered his words in slow, measured cadences.*

together; the only difference between a sentence and a paragraph, or a page, was size.

When a Heptapod B sentence grew fairly sizable, its visual impact was remarkable. If I wasn't trying to decipher it, the writing looked like fanciful praying mantids drawn in a cursive style, all clinging to each other to form an Escheresque lattice, each slightly different in its stance. And the biggest sentences had an effect similar to that of psychedelic posters: sometimes eye-watering, sometimes hypnotic.

*What was especially confusing about heptapods' written language system?*



***Maurits Escher*** - a Dutch graphic artist who made mathematically inspired woodcuts

* * *

I remember a picture of you taken at your college graduation. In the photo you're striking a pose for the camera, mortarboard stylishly tilted on your head, one hand touching your sunglasses, the other hand on your hip, holding open your gown to reveal the tank top and shorts you're wearing underneath.

**Mortarboard** - a black hat with a stiff square top, worn by some university teachers and students at special ceremonies

I remember your graduation. There will be the distraction of having Nelson and your father and what's-her-name there all at the same time, but that will be minor. That entire weekend, while you're introducing me to your classmates and hugging everyone incessantly, I'll be all but mute with amazement. I can't believe that you, a grown woman taller than me and beautiful enough to make my heart ache, will be the same girl I used to lift off the ground so you could reach the drinking fountain, the same girl who used to trundle out of my bedroom draped in a dress and hat and four scarves from my closet.

And after graduation, you'll be heading for a job as a financial analyst. I won't understand what you do there, I won't even understand your fascination with money, the preeminence[38] you gave to salary when negotiating job offers. I would prefer it if you'd pursue something without regard for its monetary rewards, but I'll have no complaints. My own mother could never understand why I couldn't just be a high school English teacher. You'll do what makes you happy, and that'll be all I ask for.

*Louise doesn't openly speak about her feelings to her daughter. Comment on this entry. What do her word imply about her feelings?*

* * *

As time went on, the teams at each looking glass began working in earnest[39] on learning heptapod terminology for elementary mathematics and physics. We worked together on presentations, with the linguists focusing on procedure and the physicists focusing on subject matter. The physicists showed us previously devised systems for communicating with aliens, based on mathematics, but those were intended for use over a radio telescope. We reworked them for face-to-face communication.

Our teams were successful with basic arithmetic, but we hit a roadblock[40] with geometry and algebra. We tried using a spherical coordinate system instead of a rectangular one, thinking it might be more natural to the heptapods given their anatomy, but that approach

[38] preeminence - the quality of being more important, more successful or of a higher standard than others
[39] in earnest – when sth. begins in earnest, it has already started but is now being done in a serious way

[40] hit a wall/a roadblock - to reach a point at which no more progress can be made

wasn't any more fruitful. The heptapods didn't seem to understand what we were getting at.

Likewise, the physics discussions went poorly. Only with the most concrete terms, like the names of the elements, did we have any success; after several attempts at representing the periodic table, the heptapods got the idea. For anything remotely abstract, we might as well have been gibbering[41]. We tried to demonstrate basic physical attributes like mass and acceleration so we could elicit their terms for them, but the heptapods simply responded with requests for clarification. To avoid perceptual problems that might be associated with any particular medium, we tried physical demonstrations as well as line drawings, photos, and animations; none were effective. Days with no progress became weeks, and the physicists were becoming disillusioned.

By contrast, the linguists were having much more success. We made steady progress decoding the grammar of the spoken language, Heptapod A. It didn't follow the pattern of human languages, as expected, but it was comprehensible so far: free word order, even to the extent that there was no preferred order for the clauses in a conditional statement, in defiance[42] of a human language "universal." It also appeared that the heptapods had no objection to many levels of center-embedding of clauses, something that quickly defeated humans. Peculiar, but not impenetrable[43].

Much more interesting were the newly discovered morphological and grammatical processes in Heptapod B that were uniquely two-dimensional. Depending on a semagram's declension, inflections could be indicated by varying a certain stroke's curvature, or its thickness, or its manner of undulation; or by varying the relative sizes of two radicals, or their relative distance to another radical, or their orientations; or various other means. These were nonsegmental graphemes; they couldn't be isolated from the rest of a semagram. And despite how such traits behaved in human writing, these had nothing to do with calligraphic style; their meanings were defined according to a consistent and unambiguous[44] grammar.

We regularly asked the heptapods why they had come. Each time, they answered "to see," or "to observe." Indeed, sometimes they preferred to watch us silently rather than answer our questions. Perhaps they were scientists, perhaps they were tourists. The State Department instructed us to reveal as little as possible about humanity, in case that information could be used as a bargaining chip in subsequent negotiations. We obliged, though it didn't require much effort: the heptapods never asked questions about anything. Whether scientists or tourists, they were an awfully incurious bunch.

* * *

I remember once when we'll be driving to the mall to buy some new clothes for you. You'll be thirteen. One moment you'll be sprawled

*Based on this info, sum up the difficulties physicists had.*

*How is heptapods' language different from human languages?*

**Language universal** - a pattern that occurs systematically across natural languages, potentially true for all of them. For example, All languages have nouns and verbs, or If a language is spoken, it has consonants and vowels. (Wikipedia)

**Center-embedding of clauses**: in linguistics, center-embedding is the process of layering a phrase in the middle of another phrase of the same type. It is technically grammatically correct; however, it can lead to difficulty with parsing the meaning because of humans' limited short-term memory. E.g.
1. A man that a woman loves.
2. A man that a woman [that a child knows] loves.
3. A man that a woman [that a child [that a bird saw] knows] loves.
4. A man that a woman [that a child [that a bird [that I heard] saw] knows] loves.
Clearly, the final sentence is very difficult to read. Therefore, linguists generally suggest avoiding center-embedding several clauses within a single sentence. Evidently, because heptapods have memories superior to those of humans, they are able to center-embed their clauses with no difficulty.

[41] gibbering - speaking quickly in a way that cannot be understood, usually when you are very frightened or confused

[42] in defiance of - the act of openly refusing to obey sb.

[43] impenetrable - that cannot be entered, passed through or seen through

[44] unambiguous - clear in meaning; that can only be understood in one way

in your seat, completely unself-conscious, all child; the next, you'll toss your hair with a practiced casualness, like a fashion model in training.

You'll give me some instructions as I'm parking the car. "Okay, Mom, give me one of the credit cards, and we can meet back at the entrance here in two hours."

I'll laugh. "Not a chance. All the credit cards stay with me."

"You're kidding." You'll become the embodiment of exasperation[45]. We'll get out of the car and I will start walking to the mall entrance. After seeing that I won't budge on the matter, you'll quickly reformulate your plans.

"Okay Mom, okay. You can come with me, just walk a little ways behind me, so it doesn't look like we're together. If I see any friends of mine, I'm gonna stop and talk to them, but you just keep walking, okay? I'll come find you later."

I'll stop in my tracks. "Excuse me? I am not the hired help, nor am I some mutant relative for you to be ashamed of."

"But Mom, I can't let anyone see you with me."

"What are you talking about? I've already met your friends; they've been to the house."

"That was different," you'll say, incredulous that you have to explain it. "This is shopping."

"Too bad."

Then the explosion: "You won't do the least thing to make me happy! You don't care about me at all!"

It won't have been that long since you enjoyed going shopping with me; it will forever astonish me how quickly you grow out of one phase and enter another. Living with you will be like aiming for a moving target; you'll always be further along than I expect.

*Do you think that the final sentence closely sums up many parent-child relations?*

* * *

I looked at the sentence in Heptapod B that I had just written, using simple pen and paper. Like all the sentences I generated myself, this one looked misshapen, like a heptapod-written sentence that had been smashed with a hammer and then inexpertly taped back together. I had sheets of such inelegant semagrams covering my desk, fluttering occasionally when the oscillating fan swung past.

It was strange trying to learn a language that had no spoken form. Instead of practicing my pronunciation, I had taken to squeezing my eyes shut and trying to paint semagrams on the insides of my eyelids.

There was a knock at the door and before I could answer Gary came in looking jubilant[46]. "Illinois got a repetition in physics."

"Really? That's great; when did it happen?"

"It happened a few hours ago; we just had the videoconference. Let me show you what it is." He started erasing my blackboard.

"Don't worry, I didn't need any of that."

"Good." He picked up a nub of chalk and drew a diagram:

**Radical**: characters that convey the meaning of a logogram. In linguistics, "radicals" are also used to refer to word roots, after all affixes are removed.

**Non-segmental graphemes**: relating to the individual sounds that make up speech, as opposed to prosodic features such as stress and intonation.

[45] exasperation - the feeling of being extremely annoyed, especially because you cannot do anything to improve a situation

[46] jubilant - feeling or showing great happiness because of a success

"Okay, here's the path a ray of light takes when crossing from air to water. The light ray travels in a straight line until it hits the water; the water has a different index of refraction[47], so the light changes direction. You've heard of this before, right?"

I nodded. "Sure." "Now here's an interesting property about the path the light takes. The path is the fastest possible route between these two points."

"Come again?"

"Imagine, just for grins, that the ray of light traveled along this path."

He added a dotted line to his diagram:

"This hypothetical path is shorter than the path the light actually takes. But light travels more slowly in water than it does in air, and a greater percentage of this path is underwater. So it would take longer for light to travel along this path than it does along the real path."

"Okay, I get it."

"Now imagine if light were to travel along this other path."

He drew a second dotted path:

"This path reduces the percentage that's underwater, but the total length is larger. It would also take longer for light to travel along this path than along the actual one."

Gary put down the chalk and gestured at the diagram on the chalkboard with white-tipped fingers. "Any hypothetical path would require more time to traverse than the one actually taken. In other words, the route that the light ray takes is always the fastest possible one. That's Fermat's principle of least time."

"Hmm, interesting. And this is what the heptapods responded to?"

"Exactly. Moorehead gave an animated presentation of Fermat's principle at the Illinois looking glass, and the heptapods repeated it back. Now he's trying to get a symbolic description." He grinned. "Now is that highly neat, or what?"

"It's neat all right, but how come I haven't heard of Fermat's principle before?" I picked up a binder and waved it at him; it was a primer on the physics topics suggested for use in communication with the heptapods. "This thing goes on forever about Planck masses and the spin-flip of atomic hydrogen, and not a word about the refraction of light."

"We guessed wrong about what'd be most useful for you to know," Gary said without embarrassment. "In fact, it's curious that Fermat's principle was the first breakthrough; even though it's easy to explain, you need calculus to describe it mathematically. And not ordinary calculus; you need the calculus of variations. We thought that some simple theorem of geometry or algebra would be the breakthrough."

**Index of refraction** - also called "refractive index." This is the measure of how much a ray of light will bend when passing from one medium to another (i.e. from air to water).

**Fermat's Principle of Least Time**: the link between ray optics and wav e optics. In its original strong form, Fermat's principle states that the path taken by a ray between two given points is the path that can be traveled in the least time.
Світло вибирає з безлічі шляхів між двома точками той шлях, який вимагатиме найменшого часу. Тобто промінь світла рухається з початкової точки в кінцеву точку шляхом, що мінімізує час руху.

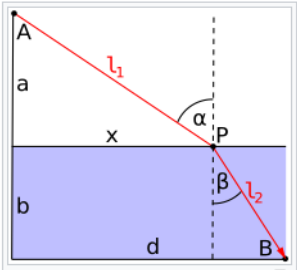



**Fig. 1**: Fermat's principle in the case of refraction of light at a flat surface between (say) air and water. Given an object-point *A* in the air, and an observation point *B* in the water, the refraction point *P* is that which minimizes the time taken by the light to travel the path *APB*. If we seek the required value of *x*, we find that the angles *α* and *β* satisfy Snell's law.

**Calculus of variations** - is a field of mathematical analysis that uses variations, which are small changes in functions and functionals, to find maxima and minima of functionals: mappings from a set of functions to the real numbers.
Варіаційне обчислення. Найбільш типове завдання - знайти функцію, на якій заданий функціонал досягає екстремального значення.

[47] refraction - the fact of light, radio waves, etc. changing direction when they go through water, air, glass, etc. at an angle

"Curious indeed. You think the heptapods' idea of what's simple doesn't match ours?"

"Exactly, which is why I'm dying to see what their mathematical description of Fermat's principle looks like." He paced as he talked. "If their version of the calculus of variations is simpler to them than their equivalent of algebra, that might explain why we've had so much trouble talking about physics; their entire system of mathematics may be topsy-turvy[48] compared to ours." He pointed to the physics primer. "You can be sure that we're going to revise that."

"So can you build from Fermat's principle to other areas of physics?"

*Sum up. What area of physics became the breakthrough? In your own words, describe the breakthrough the physicists had.*
*What does this principle state? What might be its implication?*

"Probably. There are lots of physical principles just like Fermat's."

"What, like Louise's principle of least closet space? When did physics become so minimalist?"

"Well, the word 'least' is misleading. You see, Fermat's principle of least time is incomplete; in certain situations light follows a path that takes more time than any of the other possibilities. It's more accurate to say that light always follows an extreme path, either one that minimizes the time taken or one that maximizes it. A minimum and a maximum share certain mathematical properties, so both situations can be described with one equation. So to be precise, Fermat's principle isn't a minimal principle; instead it's what's known as a 'variational' principle."

"And there are more of these variational principles?"

He nodded. "In all branches of physics. Almost every physical law can be restated as a variational principle. The only difference between these principles is in which attribute is minimized or maximized." He gestured as if the different branches of physics were arrayed before him on a table. "In optics, where Fermat's principle applies, time is the attribute that has to be an extreme. In mechanics, it's a different attribute. In electromagnetism, it's something else again. But all these principles are similar mathematically."

"So once you get their mathematical description of Fermat's principle, you should be able to decode the other ones."

"God, I hope so. I think this is the wedge that we've been looking for, the one that cracks open their formulation of physics. This calls for a celebration." He stopped his pacing and turned to me. "Hey Louise, want to go out for dinner? My treat."

I was mildly surprised. "Sure," I said.

[48] topsy-turvy - in a state in which nothing is certain and everything is very confused

## Assignment 2.

**VOCABULARY SECTION for SELF-STUDY**

***1. Learn the meaning of these words, recall the context they were used in:***

Incongruous_____
conglomeration_____
to be reminiscent of_____
to catch up with _____
curve_____
modulation_____
full-fledged_____
suffice_____
redundant_____
implication_____
preeminence_____
(work) in earnest_____
hit a wall/a roadblock _____
gibbering _____
defiance_____
refraction_____
impenetrable_____
unambiguous_____
exasperation_____
jubilant_____
topsy-turvy_____

***2. Match the words with their definitions:***

| | |
|---|---|
| 1. *to catch up with*<br>2. *hit a wall/a roadblock*<br>3. *defiance*<br>4. *suffice*<br>5. *topsy-turvy*<br>6. curve<br>7. *full-fledged*<br>8. *gibbering*<br>9. *conglomeration*<br>10. *reminiscent* | a) disposition to resist, willingness to contend or fight<br>b) to be enough<br>c) completely developed or trained<br>d) to move fast enough to join someone or something<br>e) speaking quickly in a way that cannot be understood, usually when you are very frightened or confused<br>f) confused, not well organized, upside down<br>g) reminding you of somebody<br>h) to reach a point at which no more progress can be made<br>i) a line that bends continuously and has no straight parts<br>j) a mixture of different things that are found all together |

***3. Match the words with their antonymic pairs:***

| | |
|---|---|
| 1. *topsy-turvy*<br>2. *impenetrable*<br>3. *redundant*<br>4. *unambiguous*<br>5. *preeminence*<br>6. *blithe*<br>7. *jubilant*<br>8. *gibbering*<br>9. *put your finger on sth*<br>10. *hit a wall/a roadblock* | a) mediocrity, worthlessness<br>b) ignore, neglect<br>c) explicable, soluble<br>d) imprecise, inaccurate<br>e) forge ahead, plod along<br>f) shipshape, systematic<br>g) concerned, thoughtful, morose<br>h) doleful, sorrowful<br>i) deficient, insufficient<br>*j)* articulating, enunciating |

***4. Create as many collocations as possible. Explain their meaning.***

| | |
|---|---|
| *incongruous jubilant redundant unambiguous suffice impenetrable full-fledged topsy-turvy* | *crowd style jargon formulation of physics lyrics speech synthesis statement graphical language look disregard form of writing grammar* |

*5. Vocabulary self-check questions:*

**1.** That song **is so reminiscent of** my adolescence. The word in the bold means:

A) To bring unpleasant emotions
B) To remind you of something else
C) To make you feel uncomfortable, embarrassed
D) To forget about something

**2.** It seems **incongruous** to have a woman as the editor of a men's magazine. The word in bold means:

A) Inappropriate
B) Disgusting
C) Unusual
D) Fascinating

**3.** The scientists gathered around the table and started **gibbering**. The word in bold means:

A) To make a discussion
B) To speak rapidly and unintelligibly
C) To quarrel loudly
D) To speak slowly and understandable

**4**. Before I could open the door, my assistant came in looking **jubilant**. The word in bold means:

A) Aggrieved
B) Irate
C) Expressing great happiness
D) Pleasantly surprised

**5.** It was considered that they have a **full-fledged** writing system. The word in bold means:

A) Imperfect
B) Intelligible
C) Incomplete
D) Developed

**6.** We **had been hitting a wall** for a long time trying to give an answer to the main question. The expression in bold means:

A) To make a progress
B) To find a solution
C) To be unable to make any progress
D) To succeed in something

7. Their language system is **impenetrable** to us. The word in bold means:

A) Similar
B) Unintelligible
C) Understandable
D) Comprehensible

**8.** The minister promised an **unambiguous** statement on the future of the industry. The word in bold means:

A) Clear
B) Uncertain
C) Inspiring
D) Loud

**9.** Things are so **topsy-turvy** at work these days. The words in bold mean:

A) Strange
B) Not well organized
C) Fascinating
D) Adventurous

**10.** A smile will always **suffice** to make someone's day. The word in bold mean:

A) To be deficient
B) To be able to improve
C) To be redundant
D) To be enough

**11.** I would never understand the **preeminence** you gave to salary while choosing a job. The word in bold means:

A) To consider something as not important thing
B) To neglect something
C) To disregard something
D) To consider something as very important thing

**12.** If you **catch up with** somebody, it means:

A) You try to catch somebody
B) You try to reach somebody who is ahead of you
C) You try to stop somebody
D) You try to find something to talk about with somebody

**13.** Perhaps, they believe that humans' writing system is **redundant**. The word in bold means:

A) Sufficient
B) Deficient
C) Incomplete
D) Flawed

***6. Stylistics and translation.*** Identify stylistic means and devices applied in the following sentences. Translate the sentences into Ukrainian:

1. The familiar was far away, while the bizarre was close at hand.
2. The writing looked like fanciful praying mantids drawn in a cursive style, all clinging to each other to form an Escheresque lattice, each slightly different in its stance. And the biggest sentences had an effect similar to that of psychedelic posters: sometimes eye-watering, sometimes hypnotic.
3. Living with you will be like aiming for a moving target; you'll always be further along than I expect.
4. Like all the sentences I generated myself, this one looked misshapen, like a heptapod-written sentence that had been smashed with a hammer and then inexpertly taped back together. I had sheets of such inelegant semagrams covering my desk, fluttering occasionally when the oscillating fan swung past.
5. It will be the most wonderful sound I could ever imagine, a sound that makes me feel like a fountain, or a wellspring.
6. Calculus for us; elementary to them.

***7. Translate these sentences into English. Use as many expressions from the active vocabulary list as possible.***

1. Я побачив, що мій напарник йде до трейлера, і побіг наздоганяти його. Щось в цьому експерименті здавалось мені дивним, але я не міг пояснити, що саме. Ми зайшли в глухий кут, намагаючись знайти відповідь, чому їх мовна система така непроникна/незрозуміла для нас. Можливо, їх мовна система була перевернута в порівнянні з нашою.
2. Вчені зібралися навколо столу і почали голосно тараторити. Раптом пролунав стук в двері, і перш ніж я встиг відповісти, увійшов мій асистент з тріумфуючим виглядом. "Я думаю, у них є повноцінна писемність, яка повністю відрізняється від їх мови. Це неймовірно!"
3. "Ти здався, чи не так?" сказав я. На його обличчі з'явилося дивовижно смутне/ сором'язливе вираження.. "Я просто не сильний в мовах", - признався він. "Бачити тебе в такому стані мені дуже набридло" сказала я.
4. А після закінчення університету ти відправишся на роботу в якості фінансового аналітика. Я навіть не розумітиму, чим ти там займаєшся, не розумітиму твого захоплення грошима, того, що ти віддаєш перевагу зарплаті при обговоренні пропозицій про роботу. Я б вважав за краще, щоб ти займався чимось, не звертаючи уваги на грошову винагороду, але я не скаржитимуся. Ти робитимеш те, що робить тебе щасливим, і це усе, про що я прошу.

**DISCUSSION**

***1. Questions.*** Prepare in writing 3-5 specific questions to Part 2 worth discussion.
***2. Themes.*** Some of the major themes that this story deals with include *motherhood*, *linguistic discovery*, *free will*, *scientific progress* and others. Identify the themes presented in Parts 1-2 and be ready to talk about them. Base your ideas on the text, be ready to offer your commentary to specific extracts.

**8. Self-check multiple-choice questions to the content of Part 2.**

**1)** What writing system do the heptapods use?
   a) Glotographic
   b) Semasiographic
   c) Both variants

**2)** Why do the heptapods use separate languages for writing and speech?
   a) It makes more sense to use them for their needs
   b) In order to puzzle people
   c) They do not use separate languages for writing and speech

**3)** What place did Louise`s family visit when her daughter was six?
   a) Paris
   b) Hawaii
   c) London

**4)** What job did Louise`s daughter get?
   a) Politician
   b) Actress
   c) Financial analyst

**5)** With what did the team of scientists hit a road block?
   a) History
   b) Biology and chemistry
   c) Geometry and algebra

**6)** Were physicists successful while communicating with the heptapods?
   a) Yes
   b) No
   c) Your answer

**7)** What was the heptapods` answer to the question why they had come?
   a) To see, to observe
   b) They preferred to be silent
   c) Both variants are correct

**8)** Why did not Louise`s daughter want to go for shopping with her mother?
   a) She did not want her friends to see her with her mother
   b) She wanted to choose clothes on her own
   c) She liked to do it alone

**9)** The heptapods` entire system of mathematics may be … compared to people`s system
   a) Similar
   b) Topsy-turvy
   c) Identical

**10)** The heptapods consider Fermat`s Principle … explanation of light refraction.
   a) The most difficult
   b) Moderately complex
   c) The simplest

*Ted Chiang*
**Story of Your Life**

## Part 3.

* * *

It'll be when you first learn to walk that I get daily demonstrations of the asymmetry in our relationship. You'll be incessantly running off somewhere, and each time you walk into a door frame or scrape your knee, the pain feels like it's my own. It'll be like growing an errant limb, an extension of myself whose sensory nerves report pain just fine, but whose motor nerves don't convey my commands at all. It's so unfair: I'm going to give birth to an animated voodoo doll of myself. I didn't see this in the contract when I signed up. Was this part of the deal?

*What do we learn in this entry about Louise as a mother? her feelings? her pain? her fears?*
*What does she mean by 'the asymmetry' in her relationship with her daughter?*

And then there will be the times when I see you laughing. Like the time you'll be playing with the neighbor's puppy, poking your hands through the chain-link fence separating our back yards, and you'll be laughing so hard you'll start hiccuping. The puppy will run inside the neighbor's house, and your laughter will gradually subside, letting you catch your breath. Then the puppy will come back to the fence to lick your fingers again, and you'll shriek and start laughing again. It will be the most wonderful sound I could ever imagine, a sound that makes me feel like a fountain, or a wellspring.

Now if only I can remember that sound the next time your blithe[49] disregard for self-preservation gives me a heart attack.

* * *

After the breakthrough with Fermat's principle, discussions of scientific concepts became more fruitful. It wasn't as if all of heptapod physics were suddenly rendered transparent, but progress was steady. According to Gary, the heptapods' formulation of physics was indeed topsy-turvy relative to ours. Physical attributes that humans defined using integral calculus[50] were seen as fundamental by the heptapods. As an example, Gary described an attribute that, in physics jargon, bore the deceptively simple name "action," which represented "the difference between kinetic and potential energy, integrated over time," whatever that meant. Calculus for us; elementary to them.

Conversely, to define attributes that humans thought of as fundamental, like velocity, the heptapods employed mathematics that were, Gary assured me, "highly weird." The physicists were ultimately able to prove the equivalence of heptapod mathematics and human mathematics; even though their approaches were almost the reverse of one another, both were systems for describing the same physical universe.

I tried following some of the equations that the physicists were coming up with, but it was no use. I couldn't really grasp the significance of physical attributes like "action"; I couldn't, with any

[49] blithe - showing you do not care or are not anxious about what you are doing
[50] calculus - an area of advanced mathematics in which continuously changing values are studied

confidence, ponder the significance of treating such an attribute as fundamental. Still, I tried to ponder questions formulated in terms more familiar to me: what kind of worldview did the heptapods have, that they would consider Fermat's principle the simplest explanation of light refraction? What kind of perception made a minimum or maximum readily apparent to them?

*Based on what you already know and what you'll read about heptapods later, try to think of an answer to Louise's questions.*

* * *

Your eyes will be blue like your dad's, not mud brown like mine. Boys will stare into those eyes the way I did, and do, into your dad's, surprised and enchanted, as I was and am, to find them in combination with black hair. You will have many suitors.

I remember when you are fifteen, coming home after a weekend at your dad's, incredulous over the interrogation he'll have put you through regarding the boy you're currently dating. You'll sprawl on the sofa, recounting your dad's latest breach of common sense: "You know what he said? He said, 'I know what teenage boys are like.'" Roll of the eyes. "Like I don't?"

"Don't hold it against him," I'll say. "He's a father; he can't help it." Having seen you interact with your friends, I won't worry much about a boy taking advantage of you; if anything, the opposite will be more likely. I'll worry about that.

"He wishes I were still a kid. He hasn't known how to act toward me since I grew breasts."

"Well, that development was a shock for him. Give him time to recover."

"It's been years, Mom. How long is it gonna take?"

"I'll let you know when my father has come to terms with mine."

*Sum up what you know about Louise's daughter. What kind of person is she? What kind of relationship does she have with her mom and dad?*

* * *

During one of the videoconferences for the linguists, Cisneros from the Massachusetts looking glass had raised an interesting question: Was there a particular order in which semagrams were written in a Heptapod B sentence? It was clear that word order meant next to nothing when speaking in Heptapod A; when asked to repeat what it had just said, a heptapod would likely as not use a different word order unless we specifically asked them not to. Was word order similarly unimportant when writing in Heptapod B?

Previously, we had focused our attention only on how a sentence in Heptapod B looked once it was complete. As far as anyone could tell, there was no preferred order when reading the semagrams in a sentence; you could start almost anywhere in the nest, then follow the branching clauses until you'd read the whole thing. But that was reading; was the same true about writing?

During my most recent session with Flapper and Raspberry I had asked them if, instead of displaying a semagram only after it was completed, they could show it to us while it was being written. They had agreed. I inserted the videotape of the session into the VCR, and on my computer I consulted the session transcript.

I picked one of the longer utterances from the conversation. What Flapper had said was that the heptapods' planet had two moons, one significantly larger than the other; the three primary constituents

of the planet's atmosphere were nitrogen, argon, and oxygen; and 15/28ths of the planet's surface was covered by water. The first words of the spoken utterance translated literally as "inequality-of-size rocky-orbiter rockyorbiters related-as-primary-to-secondary."

Then I rewound the videotape until the time signature matched the one in the transcription. I started playing the tape, and watched the web of semagrams being spun out of inky spider's silk. I rewound it and played it several times. Finally I froze the video right after the first stroke was completed and before the second one was begun; all that was visible onscreen was a single sinuous line.

Comparing that initial stroke with the completed sentence, I realized that the stroke participated in several different clauses of the message. It began in the semagram for "oxygen," as the determinant that distinguished it from certain other elements; then it slid down to become the morpheme of comparison in the description of the two moons' sizes; and lastly it flared out as the arched backbone of the semagram for "ocean." Yet this stroke was a single continuous line, and it was the first one that Flapper wrote. That meant the heptapod had to know how the entire sentence would be laid out before it could write the very first stroke.

The other strokes in the sentence also traversed several clauses, making them so interconnected that none could be removed without redesigning the entire sentence. The heptapods didn't write a sentence one semagram at a time; they built it out of strokes irrespective of individual semagrams. I had seen a similarly high degree of integration before in calligraphic designs, particularly those employing the Arabic alphabet. But those designs had required careful planning by expert calligraphers. No one could lay out such an intricate design at the speed needed for holding a conversation. At least, no human could.

*Analyze the text in this entry to discuss what important discovery Dr. Banks did about the written language of heptapods.*

* * *

There's a joke that I once heard a comedienne tell. It goes like this: "I'm not sure if I'm ready to have children. I asked a friend of mine who has children, 'Suppose I do have kids. What if when they grow up, they blame me for everything that's wrong with their lives?' She laughed and said, 'What do you mean, if?' "

That's my favorite joke.

☺☺☺

*Natural, isn't it?*

* * *

Gary and I were at a little Chinese restaurant, one of the local places we had taken to patronizing to get away from the encampment. We sat eating the appetizers: potstickers, redolent of pork and sesame oil. My favorite.

I dipped one in soy sauce and vinegar. "So how are you doing with your Heptapod B practice?" I asked.

Gary looked obliquely at the ceiling. I tried to meet his gaze, but he kept shifting it.

"You've given up, haven't you?" I said. "You're not even trying anymore."

He did a wonderful hangdog expression[51]. "I'm just no good at languages," he confessed. "I thought learning Heptapod B might be more like learning mathematics than trying to speak another language, but it's not. It's too foreign for me."

"It would help you discuss physics with them."

"Probably, but since we had our breakthrough, I can get by with just a few phrases."

I sighed. "I suppose that's fair; I have to admit, I've given up on trying to learn the mathematics."

"So we're even?"

"We're even." I sipped my tea. "Though I did want to ask you about Fermat's principle. Something about it feels odd to me, but I can't put my finger[52] on it. It just doesn't sound like a law of physics."

A twinkle appeared in Gary's eyes. "I'll bet I know what you're talking about." He snipped a potsticker in half with his chopsticks. "You're used to thinking of refraction in terms of cause and effect: reaching the water's surface is the cause, and the change in direction is the effect. But Fermat's principle sounds weird because it describes light's behavior in goal-oriented terms. It sounds like a commandment to a light beam: 'Thou shalt minimize or maximize the time taken to reach thy destination.' "

I considered it. "Go on."

"It's an old question in the philosophy of physics. People have been talking about it since Fermat first formulated it in the 1600s; Planck wrote volumes about it. The thing is, while the common formulation of physical laws is causal, a variational principle like Fermat's is purposive, almost teleological[53]."

"Hmm, that's an interesting way to put it. Let me think about that for a minute." I pulled out a felt-tip pen and, on my paper napkin, drew a copy of the diagram that Gary had drawn on my blackboard. "Okay," I said, thinking aloud, "so let's say the goal of a ray of light is to take the fastest path. How does the light go about doing that?"

"Well, if I can speak anthropomorphic-projectionally, the light has to examine the possible paths and compute how long each one would take." He plucked the last potsticker from the serving dish.

"And to do that," I continued, "the ray of light has to know just where its destination is. If the destination were somewhere else, the fastest path would be different."

Gary nodded again. "That's right; the notion of a 'fastest path' is meaningless unless there's a destination specified. And computing how long a given path takes also requires information about what lies along that path, like where the water's surface is."

I kept staring at the diagram on the napkin. "And the light ray has to know all that ahead of time, before it starts moving, right?"

"So to speak," said Gary. "The light can't start traveling in any old direction and make course corrections later on, because the path resulting from such behavior wouldn't be the fastest possible one. The light has to do all its computations at the very beginning."

*Think about Gary's explanation of Fermat's Principle. Try to sum it up in your own words. Take into account such concepts as cause-and-effect, goal-orientation, teleology.*
*How is Fermat's idea of the light's movement different from the one we are accustomed to?*
*What is the implication of this law?*

[51] hangdog expression - having a dejected or guilty appearance; shamefaced

[52] put your finger on sth - to discover the exact reason why a situation is the way it is, especially when something is wrong

[53] teleological - (in philosophy) involving the belief that everything has a purpose or use

I thought to myself, the ray of light has to know where it will ultimately end up before it can choose the direction to begin moving in. I knew what that reminded me of. I looked up at Gary. "That's what was bugging[54] me."

*What was 'bugging' Louise and what might be the explanation to her entanglement?*

* * *

I remember when you're fourteen. You'll come out of your bedroom, a graffiti-covered notebook computer in hand, working on a report for school.

"Mom, what do you call it when both sides can win?" I'll look up from my computer and the paper I'll be writing. "What, you mean a win-win situation?"

"There's some technical name for it, some math word. Remember that time Dad was here, and he was talking about the stock market? He used it then."

"Hmm, that sounds familiar, but I can't remember what he called it."

"I need to know. I want to use that phrase in my social studies report. I can't even search for information on it unless I know what it's called."

"I'm sorry, I don't know it either. Why don't you call your dad?"

Judging from your expression, that will be more effort than you want to make. At this point, you and your father won't be getting along well. "Can you call Dad and ask him? But don't tell him it's for me."

"I think you can call him yourself."

You'll fume, "Jesus, Mom, I can never get help with my homework since you and Dad split up."

It's amazing the diverse situations in which you can bring up the divorce. "I've helped you with your homework."

"Like a million years ago, Mom." I'll let that pass. "I'd help you with this if I could, but I don't remember what it's called."

You'll head back to your bedroom in a huff[55].

* * *

I practiced Heptapod B at every opportunity, both with the other linguists and by myself. The novelty of reading a semasiographic language made it compelling in a way that Heptapod A wasn't, and my improvement in writing it excited me. Over time, the sentences I wrote grew shapelier, more cohesive[56]. I had reached the point where it worked better when I didn't think about it too much. Instead of carefully trying to design a sentence before writing, I could simply begin putting down strokes immediately; my initial strokes almost always turned out to be compatible with an elegant rendition of what I was trying to say. I was developing a faculty like that of the heptapods.

More interesting was the fact that Heptapod B was changing the way I thought. For me, thinking typically meant speaking in an internal voice; as we say in the trade, my thoughts were phonologically coded. My internal voice normally spoke in English, but that wasn't a

[54] bug sb.- to annoy somebody
[55] in a huff - in a bad mood, especially because somebody has annoyed or upset you
[56] cohesive - forming a united whole

requirement. The summer after my senior year in high school, I attended a total immersion program for learning Russian; by the end of the summer, I was thinking and even dreaming in Russian. But it was always spoken Russian. Different language, same mode: a voice speaking silently aloud.

The idea of thinking in a linguistic yet nonphonological mode always intrigued me. I had a friend born of Deaf parents; he grew up using American Sign Language, and he told me that he often thought in ASL instead of English. I used to wonder what it was like to have one's thoughts be manually coded, to reason using an inner pair of hands instead of an inner voice.

With Heptapod B, I was experiencing something just as foreign: my thoughts were becoming graphically coded. There were trance-like moments during the day when my thoughts weren't expressed with my internal voice; instead, I saw semagrams with my mind's eye, sprouting like frost on a windowpane.

As I grew more fluent, semagraphic designs would appear fully formed, articulating even complex ideas all at once. My thought processes weren't moving any faster as a result, though. Instead of racing forward, my mind hung balanced on the symmetry underlying the semagrams. The semagrams seemed to be something more than language; they were almost like mandalas. I found myself in a meditative state, contemplating the way in which premises and conclusions were interchangeable. There was no direction inherent in the way propositions were connected, no "train of thought" moving along a particular route; all the components in an act of reasoning were equally powerful, all having identical precedence[57].

*How does learning heptapod's language change the way Louise thinks? Visual vs Verbal Language. Which is more powerful?*

**Mandala** - a round picture that represents the universe in some Eastern religions; a schematized representation of the cosmos, chiefly characterized by a concentric configuration of geometric shapes, each of which contains an image of a deity or an attribute of a deity.

(source:https://bit.ly/35e6EP2)

* * *

A representative from the State Department named Hossner had the job of briefing the U.S. scientists on our agenda with the heptapods. We sat in the videoconference room, listening to him lecture. Our microphone was turned off, so Gary and I could exchange comments without interrupting Hossner. As we listened, I worried that Gary might harm his vision, rolling his eyes so often.

"They must have had some reason for coming all this way," said the diplomat, his voice tinny through the speakers. "It does not look like their reason was conquest, thank God. But if that's not the reason, what is? Are they prospectors[58]? Anthropologists? Missionaries? Whatever their motives, there must be something we can offer them. Maybe it's mineral rights to our solar system. Maybe it's information about ourselves. Maybe it's the right to deliver sermons to our populations. But we can be sure that there's something.

"My point is this: their motive might not be to trade, but that doesn't mean that we cannot conduct trade. We simply need to know why they're here, and what we have that they want. Once we have that information, we can begin trade negotiations.

*Carefully check the language Hossner uses. What does it convey? Governmental worry? fear? concern? What do you think is the author's attitude to the government?*

[57] precedence - the condition of being more important than somebody else and therefore coming or being dealt with first

[58] prospector - a person who searches an area for gold, minerals, oil, etc.

"I should emphasize that our relationship with the heptapods need not be adversarial[59]. This is not a situation where every gain on their part is a loss on ours, or vice versa. If we handle ourselves correctly, both we and the heptapods can come out winners."

"You mean it's a non-zero-sum game?" Gary said in mock incredulity. "Oh my gosh."

**Zero-sum game**: a situation in which what is gained by one person or group is lost by another person or group
**Non-zero-sum games**: there is no single optimal strategy that is preferable to all others, nor is there a predictable outcome.
In such a situation, unlike a zero-sum game, one player's gain is not necessarily another player's loss.

* * *

"A non-zero-sum game."

"What?" You'll reverse course, heading back from your bedroom.

"When both sides can win: I just remembered, it's called a non-zero-sum game."

"That's it!" you'll say, writing it down on your notebook. "Thanks, Mom!"

"I guess I knew it after all," I'll say. "All those years with your father, some of it must have rubbed off[60]."

"I knew you'd know it," you'll say. You'll give me a sudden, brief hug, and your hair will smell of apples. "You're the best."

* * *

"Louise?"

"Hmm? Sorry, I was distracted. What did you say?"

"I said, what do you think about our Mr. Hossner here?"

"I prefer not to."

"I've tried that myself: ignoring the government, seeing if it would go away. It hasn't."

As evidence of Gary's assertion[61], Hossner kept blathering[62]: "Your immediate task is to think back on what you've learned. Look for anything that might help us. Has there been any indication of what the heptapods want? Of what they value?"

"Gee, it never occurred to us to look for things like that," I said. "We'll get right on it, sir."

"The sad thing is, that's just what we'll have to do," said Gary.

"Are there any questions?" asked Hossner.

Burghart, the linguist at the Ft. Worth looking glass, spoke up. "We've been through this with the heptapods many times. They maintain that they're here to observe, and they maintain that information is not tradable."

"So they would have us believe," said Hossner. "But consider: how could that be true? I know that the heptapods have occasionally stopped talking to us for brief periods. That may be a tactical maneuver on their part. If we were to stop talking to them tomorrow—"

"Wake me up if he says something interesting," said Gary.

"I was just going to ask you to do the same for me."

[59] adversarial - involving people who are in opposition and who argue against each other

[60] rub off - to become part of a person's character as a result of that person spending time with somebody who has those qualities, etc.

[61] assertion - a statement saying that you strongly believe something to be true

[62] blathering - talking continuously about things that are silly or unimportant

* * *

That day when Gary first explained Fermat's principle to me, he had mentioned that almost every physical law could be stated as a variational principle. Yet when humans thought about physical laws, they preferred to work with them in their causal formulation. I could understand that: the physical attributes that humans found intuitive, like kinetic energy or acceleration, were all properties of an object at a given moment in time. And these were conducive to a chronological, causal interpretation of events: one moment growing out of another, causes and effects creating a chain reaction that grew from past to future.

In contrast, the physical attributes that the heptapods found intuitive, like "action" or those other things defined by integrals, were meaningful only over a period of time. And these were conducive to a teleological interpretation of events: by viewing events over a period of time, one recognized that there was a requirement that had to be satisfied, a goal of minimizing or maximizing. And one had to know the initial and final states to meet that goal; one needed knowledge of the effects before the causes could be initiated.

*What shifts in understanding heptapod's mentality do you find in Louise's reflections over the Fermat's Principle?*

I was growing to understand that, too.

* * *

"Why?" you'll ask again. You'll be three.

"Because it's your bedtime," I'll say again. We'll have gotten as far as getting you bathed and into your jammies, but no further than that.

"But I'm not sleepy," you'll whine. You'll be standing at the bookshelf, pulling down a video to watch: your latest diversionary[63] tactic to keep away from your bedroom.

"It doesn't matter: you still have to go to bed."

"But why?"

"Because I'm the mom and I said so."

I'm actually going to say that, aren't I? God, somebody please shoot me.

I'll pick you up and carry you under my arm to your bed, you wailing piteously[64] all the while, but my sole concern will be my own distress. All those vows made in childhood that I would give reasonable answers when I became a parent, that I would treat my own child as an intelligent, thinking individual, all for naught: I'm going to turn into my mother. I can fight it as much as I want, but there'll be no stopping my slide down that long, dreadful slope.

*Why isn't Louise satisfied with herself as a mother? Do you find her behavior and complains about herself natural?*

* * *

Was it actually possible to know the future? Not simply to guess at it; was it possible to know what was going to happen, with absolute certainty and in specific detail? Gary once told me that the fundamental laws of physics were time-symmetric, that there was no physical difference between past and future. Given that, some might say, "yes,

*What do you think about the possibility of knowing the future? Personally, would you welcome it?*

[63] diversionary - intended to take somebody's attention away from something
[64] piteously - in a way that deserves pity or causes you to feel pity

theoretically." But speaking more concretely, most would answer "no," because of free will.

I liked to imagine the objection as a Borgesian fabulation: consider a person standing before the Book of Ages, the chronicle that records every event, past and future. Even though the text has been photoreduced from the full-sized edition, the volume is enormous. With magnifier in hand, she flips through the tissue-thin leaves until she locates the story of her life. She finds the passage that describes her flipping through the Book of Ages, and she skips to the next column, where it details what she'll be doing later in the day: acting on information she's read in the Book, she'll bet $100 on the racehorse Devil May Care and win twenty times that much.

**Borgesian fabulation**: Relating to the work or philosophy of author Jorge Luis Borges. Chiang uses "Borgesian" in "Story of Your Life" to allude to Borges' stories "The Library of Babel" and "The Book of Sand," in which everything there is to write in the world has already been written.

The thought of doing just that had crossed her mind, but being a contrary sort, she now resolves to refrain from betting on the ponies altogether.

There's the rub. The Book of Ages cannot be wrong; this scenario is based on the premise[65] that a person is given knowledge of the actual future, not of some possible future. If this were Greek myth, circumstances would conspire to make her enact her fate despite her best efforts, but prophecies in myth are notoriously vague; the Book of Ages is quite specific, and there's no way she can be forced to bet on a racehorse in the manner specified. The result is a contradiction: the Book of Ages must be right, by definition; yet no matter what the Book says she'll do, she can choose to do otherwise. How can these two facts be reconciled?

They can't be, was the common answer. A volume like the Book of Ages is a logical impossibility, for the precise reason that its existence would result in the above contradiction. Or, to be generous, some might say that the Book of Ages could exist, as long as it wasn't accessible to readers: that volume is housed in a special collection, and no one has viewing privileges.

*Sum up Louise's ideas/contemplations on the problems of free will. Comment of the last two paragraphs. What doubts does she have about logic of her thoughts? Is it possible to know the future and have free will?*

The existence of free will meant that we couldn't know the future. And we knew free will existed because we had direct experience of it. Volition was an intrinsic part of consciousness.

Or was it? What if the experience of knowing the future changed a person? What if it evoked a sense of urgency, a sense of obligation to act precisely as she knew she would?

* * *

I stopped by Gary's office before leaving for the day. "I'm calling it quits[66]. Did you want to grab something to eat?"

"Sure, just wait a second," he said. He shut down his computer and gathered some papers together. Then he looked up at me. "Hey, want to come to my place for dinner tonight? I'll cook."

I looked at him dubiously. "You can cook?"

"Just one dish," he admitted. "But it's a good one."

"Sure," I said. "I'm game[67]."

"Great. We just need to go shopping for the ingredients."

[65] premise - a statement or an idea that forms the basis for a reasonable line of argument
[66] call it quits - to agree to end a contest, argument, etc.
[67] I'm game - willing to try something

"Don't go to any trouble—"

"There's a market on the way to my house. It won't take a minute."

We took separate cars, me following him. I almost lost him when he abruptly turned into a parking lot. It was a gourmet[68] market, not large, but fancy; tall glass jars stuffed with imported foods sat next to specialty utensils on the store's stainless-steel shelves.

I accompanied Gary as he collected fresh basil, tomatoes, garlic, linguini. "There's a fish market next door; we can get fresh clams there," he said.

"Sounds good." We walked past the section of kitchen utensils. My gaze wandered over the shelves— pepper mills, garlic presses, salad tongs— and stopped on a wooden salad bowl.

When you are three, you'll pull a dishtowel off the kitchen counter and bring that salad bowl down on top of you. I'll make a grab for it, but I'll miss. The edge of the bowl will leave you with a cut, on the upper edge of your forehead, that will require a single stitch. Your father and I will hold you, sobbing and stained with Caesar dressing, as we wait in the emergency room for hours.

I reached out and took the bowl from the shelf. The motion didn't feel like something I was forced to do. Instead it seemed just as urgent as my rushing to catch the bowl when it falls on you: an instinct that I felt right in following.

*Does she demonstrate free will in this episode?*

"I could use a salad bowl like this."

Gary looked at the bowl and nodded approvingly. "See, wasn't it a good thing that I had to stop at the market?"

"Yes it was." We got in line to pay for our purchases.

[68] gourmet - (of food, drink, etc.) of high quality and often expensive; connected with food or drink of this type

## Assignment 3.

**VOCABULARY SECTION for SELF-STUDY**

***1. Learn the meaning of these words, recall the context they were used in:***

blithe_____
calculus _____
hangdog expression_____
put your finger on sth _____
bug somebody_____
in a huff_____
cohesive_____
premise _____
precedence_____
prospector_____
adversarial_____
rub off_____
assertion_____
blathering_____
diversionary_____
piteously_____
call it quits_____
I'm game_____
gourmet_____

***2. Match the words with the definitions:***

1. *in a huff*
2. *bug somebody*
3. *hangdog expression*
4. *premise*
5. *blathering*
6. *prospector*
7. *I'm game*
8. *call it quits*

a) sad, dejected
b) an idea or theory on which a statement or action is based;
c) feeling angry and upset;
d) stop working, abandon something;
f) to be willing to try something; to be interested in doing something fun or unusual;
g) the action of talking long-windedly without making very much sense;
h) a person or company, whose job is searching for valuable substances on or under the surface of the Earth;
i) to bother sb relentlessly

**3. Create as many collocations as possible. Explain their meaning**

infinitesimal coercion
diversionary cohesive
convoluted gourmet
incarnate

maneuver hospitalization
group market change
a vision in a painting actions
argument food tactics

**4.** ***Stylistics and translation.*** Identify stylistic means and devices applied in the following sentences. Translate the sentences into Ukrainian:

1. There were trance-like moments during the day when my thoughts weren't expressed with my internal voice; instead, I saw semagrams with my mind's eye, sprouting like frost on a windowpane.
2. If this were Greek myth, circumstances would conspire to make her enact her fate despite her best efforts, but prophecies in myth are notoriously vague; the Book of Ages, is quite specific, and there's no way she can be forced to bet on a racehorse in the manner specified. The result is a contradiction: the Book of Ages must be right, by definition; yet no matter what the Book says she'll do, she can choose to do otherwise. How can these two facts be reconciled?

***5.Complete the sentences from the text using a Word List:***

1. It was a _____ market, not large, but fancy; tall glass jars stuffed with imported foods sat next to specialty utensils on the store's stainless-steel shelves.
2. You'll head back to your bedroom _____
3. Over time, the sentences I wrote grew shapelier, more _____. I had reached the point where it worked better when I didn't think about it too much.
4. All the components in an act of reasoning were equally powerful, all having identical _____.
5. ____ for us, elementary to them
6. I should emphasize that our relationship with the heptapods need not be _____.
7. I'll pick you up and carry you under my arm to your bed, you wailing _____ all the while, but my sole concern will be my own distress.
8. "You've given up, haven't you?" I said. "You're not even trying anymore." He did a wonderful _____ expression.
9. You'll be standing at the bookshelf, pulling down a video to watch: your latest _____ tactic to keep away from your bedroom.

***6. Translate these sentences into English. Use as many expressions from the active vocabulary list as possible.***

1. Я кілька разів намагалася сказати своє твердження, але він продовжував базікати зі своїм другом, роблячи вигляд, що не чує мене, тож я роздратовано пішла геть.
2. Цей проект здавався настільки заплутаним, що я не міг уявити, як його втілити в життя. Через кілька годин я здався, зателефонував своєму колезі і жалібно благав його про допомогу.
3. Вчора дослідник знайшов невідомий матеріал, який представляв собою суміш (амальгаму) золота, міді та деяких інших елементів. Як виявилося, вміст золота був нескінченно малим порівняно з усім матеріалом, і це засмутило його.
4. Я дивився фільм, коли мені зателефонував мій друг і запропонував піти на ринок гурманів, щоб купити продукти та приготувати щось смачненьке. Не вагаючись, я відповів: «Я в ділі».

***7. Vocabulary self-check questions:***

1. If you **put your finger on** something, it means:
   A) You point your finger at something
   B) You understand or know something
   C) You are still searching for a solution
   D) You make suggestions
2. This question is still **bugging** me. The word in bold means:
   A. To excite
   B. To encourage
   C. To annoy
   D. To disappoint
3. She shows a **blithe** disregard for danger. The word in bold means:
   A. Cautious
   B. Thoughtful
   C. Careless
   D. Prudent
4. He did a wonderful **hangdog expression**. It means:
   A. He looked handsome
   B. He looked sad
   C. He looked sick
   D. He looked happy

**DISCUSSION**

**8. Self-check multiple-choice questions to the content of Part 3.**

1. What are the three primary constituents of the heptapods planet`s atmosphere?
   a. Oxygen, nitrogen, argon
   b. Nitrogen, oxygen, carbon dioxide
   c. Hydrogen, nitrogen, argon
2. Louise went to the little Chinese restaurant with …
   a. Her daughter
   b. Gary
   c. Nelson
3. According to Fermat`s Principle, the ray of light has to know …
   a. Where it will ultimately end up
   b. Where it will start
   c. How long "the trip" will take
4. Dr. Banks compares her experience of starting to think in Heptapod B to what other experience?
   a) That of a deaf friend who started to think in sign language;
   b) That of Gary Donnelly, who started to think in mathematical formulae;
   c) That of the heptapods, who are starting to think in human words.
5. Which language does Louise decide to learn after her senior year in high school?
   a) Japanese;
   b) Russian;
   c) German.
6. Who is Hossner?
   a) An aggressive diplomat who thinks that humanity should attack the heptapods;
   b) A suspicious diplomat who thinks the humans should be careful about trusting the heptapods;
   c) A suspicious diplomat who thinks the military should be careful about trusting Gary and Dr. Banks.
7. What is the term for a "win-win situation"?
   a) Non-zero-sum game;
   b) No-win situation;
   c) Zero-sum game.
8. How does Dr. Banks' consideration of a "Book of Ages" reflect her personal experience?
   a) The "Book of Ages" is Dr. Banks' nickname for the complex sentences of Heptapod B;
   b) The "Book of Ages" is Dr. Banks' nickname for her diary;
   c) It reflects Dr. Banks' experience of being aware of all the times in her own life at the same moment.
9. What is the significance of the moment with the bowl in the grocery store?
   a) Dr. Banks realizes that she has fallen in love with Gary Donnelly;
   b) Dr. Banks experiences the convergence of various time-separated incidents into a single moment;
   c) Dr. Banks experiences an insight into Fermat's Principle.
10. What is the most similar term for what Dr. Banks describes as the "cause and effect" way in which humans experience time?
    a) Concurrent;
    b) Linear;
    c) Fragmented.
11. Who is the father of Dr. Banks' daughter?
    a) Burghart;
    b) Heptapod A;
    c) Gary Donelly.

## *Ted Chiang*
## Story of Your Life

## Part 4.

* * *

Consider the sentence "The rabbit is ready to eat." Interpret "rabbit" to be the object of "eat," and the sentence was an announcement that dinner would be served shortly. Interpret "rabbit" to be the subject of "eat," and it was a hint, such as a young girl might give her mother so she'll open a bag of Purina Bunny Chow. Two very different utterances; in fact, they were probably mutually exclusive within a single household. Yet either was a valid interpretation; only context could determine what the sentence meant.

Consider the phenomenon of light hitting water at one angle, and traveling through it at a different angle. Explain it by saying that a difference in the index of refraction caused the light to change direction, and one saw the world as humans saw it. Explain it by saying that light minimized the time needed to travel to its destination, and one saw the world as the heptapods saw it. Two very different interpretations.

The physical universe was a language with a perfectly ambiguous grammar. Every physical event was an utterance that could be parsed[69] in two entirely different ways, one causal and the other teleological, both valid, neither one disqualifiable no matter how much context was available.

When the ancestors of humans and heptapods first acquired the spark of consciousness, they both perceived the same physical world, but they parsed their perceptions differently; the worldviews that ultimately arose were the end result of that divergence. Humans had developed a sequential[70] mode of awareness, while heptapods had developed a simultaneous mode of awareness. We experienced events in an order, and perceived their relationship as cause and effect. They experienced all events at once, and perceived a purpose underlying them all. A minimizing, maximizing purpose.

*How do you understand the evolution of two different species – humans and heptapods? Do you agree with the author's ideas about different types of world-view?*

* * *

I have a recurring[71] dream about your death. In the dream, I'm the one who's rock climbing— me, can you imagine it? — and you're three years old, riding in some kind of backpack I'm wearing. We're just a few feet below a ledge where we can rest, and you won't wait until I've climbed up to it. You start pulling yourself out of the pack; I order you to stop, but of course you ignore me. I feel your weight alternating from

*Interpret the dream.*

[69] parse - to divide a sentence into parts and describe the grammar of each word or part
[70] sequential - following in order of time or place
[71] recur - to happen again or a number of times

one side of the pack to the other as you climb out; then I feel your left foot on my shoulder, and then your right. I'm screaming at you, but I can't get a hand free to grab you. I can see the wavy design on the soles of your sneakers as you climb, and then I see a flake of stone give way beneath one of them. You slide right past me, and I can't move a muscle. I look down and see you shrink into the distance below me.

*If Louise knows about such future, can she prevent it?*

Then, all of a sudden, I'm at the morgue. An orderly lifts the sheet from your face, and I see that you're twenty-five.

"You okay?"

I was sitting upright in bed; I'd woken Gary with my movements. "I'm fine. I was just startled; I didn't recognize where I was for a moment."

Sleepily, he said, "We can stay at your place next time."

I kissed him. "Don't worry; your place is fine." We curled up, my back against his chest, and went back to sleep.

* * *

When you're three and we're climbing a steep, spiral flight of stairs, I'll hold your hand extra tightly. You'll pull your hand away from me. "I can do it by myself," you'll insist, and then move away from me to prove it, and I'll remember that dream. We'll repeat that scene countless times during your childhood. I can almost believe that, given your contrary nature, my attempts to protect you will be what create your love of climbing: first the jungle gym at the playground, then trees out in the green belt around our neighborhood, the rock walls at the climbing club, and ultimately cliff faces in national parks.

*Could it have been prevented?*

* * *

I finished the last radical in the sentence, put down the chalk, and sat down in my desk chair. I leaned back and surveyed the giant Heptapod B sentence I'd written that covered the entire blackboard in my office. It included several complex clauses, and I had managed to integrate all of them rather nicely.

Looking at a sentence like this one, I understood why the heptapods had evolved a semasiographic writing system like Heptapod B; it was better suited for a species with a simultaneous mode of consciousness. For them, speech was a bottleneck[72] because it required that one word follow another sequentially. With writing, on the other hand, every mark on a page was visible simultaneously. Why constrain writing with a glottographic straitjacket[73], demanding that it be just as sequential as speech? It would never occur to them. Semasiographic

*Louise seems to imply that heptapods' written language is superior to humans'. Analyze her arguments. Would you agree with her opinion?*

[72] bottleneck – anything that delays development or progress, particularly in business or industry; a place or stage in a process at which progress is impeded.

[73] straitjacket - a piece of clothing like a jacket with long arms which are tied to prevent the person wearing it from behaving violently

writing naturally took advantage of the page's two-dimensionality; instead of doling out morphemes one at a time, it offered an entire page full of them all at once.

And now that Heptapod B had introduced me to a simultaneous mode of consciousness, I understood the rationale behind Heptapod A's grammar: what my sequential mind had perceived as unnecessarily convoluted[74], I now recognized as an attempt to provide flexibility within the confines of sequential speech. I could use Heptapod A more easily as a result, though it was still a poor substitute for Heptapod B.

There was a knock at the door and then Gary poked his head in. "Colonel Weber'll be here any minute."

I grimaced. "Right." Weber was coming to participate in a session with Flapper and Raspberry; I was to act as translator, a job I wasn't trained for and that I detested.

Gary stepped inside and closed the door. He pulled me out of my chair and kissed me.

I smiled. "You trying to cheer me up before he gets here?"

"No, I'm trying to cheer me up."

"You weren't interested in talking to the heptapods at all, were you? You worked on this project just to get me into bed."

"Ah, you see right through me."

I looked into his eyes. "You better believe it," I said.

* * *

I remember when you'll be a month old, and I'll stumble out of bed to give you your 2:00 a.m. feeding. Your nursery will have that "baby smell" of diaper rash cream and talcum powder, with a faint ammoniac whiff coming from the diaper pail in the corner. I'll lean over your crib, lift your squalling form out, and sit in the rocking chair to nurse you.

The word "infant" is derived from the Latin word for "unable to speak," but you'll be perfectly capable of saying one thing: "I suffer," and you'll do it tirelessly and without hesitation. I have to admire your utter commitment[75] to that statement; when you cry, you'll become outrage incarnate[76], every fiber of your body employed in expressing that emotion. It's funny: when you're tranquil, you will seem to radiate light, and if someone were to paint a portrait of you like that, I'd insist that they include the halo. But when you're unhappy, you will become a klaxon, built for radiating sound; a portrait of you then could simply be a fire alarm bell.

*Etymologically, what do Ukrainian and Russian words for "infant" mean?*

Klaxon

At that stage of your life, there'll be no past or future for you; until I give you my breast, you'll have no memory of contentment in the past nor expectation of relief in the future. Once you begin nursing, everything will reverse, and all will be right with the world. NOW is the

[74] convolute - extremely complicated and difficult to follow
[75] commitment - a promise or firm decision to do something
[76] incarnate - in human form

only moment you'll perceive; you'll live in the present tense. In many ways, it's an enviable state.

* * *

The heptapods are neither free nor bound[77] as we understand those concepts; they don't act according to their will, nor are they helpless automatons. What distinguishes the heptapods' mode of awareness is not just that their actions coincide with history's events; it is also that their motives coincide with history's purposes. They act to create the future, to enact chronology.

Freedom isn't an illusion; it's perfectly real in the context of sequential consciousness. Within the context of simultaneous consciousness, freedom is not meaningful, but neither is coercion[78]; it's simply a different context, no more or less valid than the other. It's like that famous optical illusion, the drawing of either an elegant young woman, face turned away from the viewer, or a wart-nosed crone, chin tucked down on her chest. There's no "correct" interpretation; both are equally valid. But you can't see both at the same time.

Similarly, knowledge of the future was incompatible with free will. What made it possible for me to exercise freedom of choice also made it impossible for me to know the future. Conversely[79], now that I know the future, I would never act contrary to that future, including telling others what I know: those who know the future don't talk about it. Those who've read the Book of Ages never admit to it.

*Our civilization is built on the idea of free will & we give extra significance to it. What do you think about heptapods' alternative attitude to this concept? Does it make sense to you?*

* * *

I turned on the VCR and slotted a cassette of a session from the Ft. Worth looking glass. A diplomatic negotiator was having a discussion with the heptapods there, with Burghart acting as translator.

The negotiator was describing humans' moral beliefs, trying to lay some groundwork[80] for the concept of altruism. I knew the heptapods were familiar with the conversation's eventual outcome, but they still participated enthusiastically.

If I could have described this to someone who didn't already know, she might ask, if the heptapods already knew everything that they would ever say or hear, what was the point of their using language at all? A reasonable question. But language wasn't only for communication: it was also a form of action. According to speech act theory, statements like "You're under arrest," "I christen this vessel," or "I promise" were all performative[81]: a speaker could perform the action only by uttering

VCR: a machine that was used, especially in the past, to play videos or to record programmes from a television (the abbreviation for 'video cassette recorder')

Altruism: the fact of caring about the needs and happiness of other people and being willing to do things to help them, even if it brings no advantage to yourself

[77] be bound - forced to do something by law, duty or a particular situation
[78] coercion - the action of making sb do sth that they do not want to do, using force or threatening to use force
[79] conversely - in a way that is the opposite of something
[80] groundwork - work that is done as preparation for other work that will be done later
[81] performative - having the effect of performing an action

the words. For such acts, knowing what would be said didn't change anything. Everyone at a wedding anticipated the words "I now pronounce you husband and wife," but until the minister actually said them, the ceremony didn't count. With performative language, saying equaled doing.

For the heptapods, all language was performative. Instead of using language to inform, they used language to actualize. Sure, heptapods already knew what would be said in any conversation; but in order for their knowledge to be true, the conversation would have to take place.

*What's the point of communication is you know the outcome of your dialogue? What other functions does the language have?*

* * *

"First Goldilocks tried the papa bear's bowl of porridge, but it was full of Brussels sprouts, which she hated."

You'll laugh. "No, that's wrong!" We'll be sitting side by side on the sofa, the skinny, overpriced hardcover spread open on our laps.

I'll keep reading. "Then Goldilocks tried the mama bear's bowl of porridge, but it was full of spinach, which she also hated."

You'll put your hand on the page of the book to stop me. "You have to read it the right way!"

"I'm reading just what it says here," I'll say, all innocence.

"No you're not. That's not how the story goes."

"Well if you already know how the story goes, why do you need me to read it to you?"

" 'Cause I wanna hear it!"

* * *

The air-conditioning in Weber's office almost compensated for having to talk to the man.

"They're willing to engage in a type of exchange," I explained, "but it's not trade. We simply give them something, and they give us something in return. Neither party tells the other what they're giving beforehand."

Colonel Weber's brow furrowed just slightly. "You mean they're willing to exchange gifts?"

I knew what I had to say. "We shouldn't think of it as 'gift-giving.' We don't know if this transaction has the same associations for the heptapods that gift-giving has for us."

"Can we" — he searched for the right wording— "drop hints about the kind of gift we want?"

"They don't do that themselves for this type of transaction. I asked them if we could make a request, and they said we could, but it won't make them tell us what they're giving." I suddenly remembered that a morphological relative of "performative" was "performance,"

which could describe the sensation of conversing when you knew what would be said: it was like performing in a play.

"But would it make them more likely to give us what we asked for?" Colonel Weber asked. He was perfectly oblivious of the script, yet his responses matched his assigned lines exactly.

"No way of knowing," I said. "I doubt it, given that it's not a custom they engage in."

"If we give our gift first, will the value of our gift influence the value of theirs?" He was improvising, while I had carefully rehearsed for this one and only show.

"No," I said. "As far as we can tell, the value of the exchanged items is irrelevant."

"If only my relatives felt that way," murmured Gary wryly.

I watched Colonel Weber turn to Gary. "Have you discovered anything new in the physics discussions?" he asked, right on cue[82].

"If you mean, any information new to mankind, no," said Gary. "The heptapods haven't varied from the routine. If we demonstrate something to them, they'll show us their formulation of it, but they won't volunteer anything and they won't answer our questions about what they know."

An utterance that was spontaneous and communicative in the context of human discourse became a ritual recitation when viewed by the light of Heptapod B.

Weber scowled. "All right then, we'll see how the State Department feels about this. Maybe we can arrange some kind of gift-giving ceremony."

Like physical events, with their causal and teleological interpretations, every linguistic event had two possible interpretations: as a transmission of information and as the realization of a plan.

"I think that's a good idea, Colonel," I said.

It was an ambiguity invisible to most. A private joke; don't ask me to explain it.

* * *

Even though I'm proficient with Heptapod B, I know I don't experience reality the way a heptapod does. My mind was cast in the mold of human, sequential languages, and no amount of immersion in an alien language can completely reshape it. My worldview is an amalgam[83] of human and heptapod.

Before I learned how to think in Heptapod B, my memories grew like a column of cigarette ash, laid down by the infinitesimal[84] sliver of combustion that was my consciousness, marking the sequential present. After I learned Heptapod B, new memories fell into place like gigantic

*Pick up the words that prove that Louise acquired the ability to know the future.*

*Comment on heptapods' 'sharing tactics'.*

*Why was Colonel Weber so anxious about the gifts? Comment on governmental hopes, wishes, expectations regarding the gifts.*

[82] right on cue - at exactly the moment you expect or that is appropriate
[83] amalgam – a mixture or blend
[84] infinitesimal - extremely small

blocks, each one measuring years in duration, and though they didn't arrive in order or land contiguously, they soon composed a period of five decades. It is the period during which I know Heptapod B well enough to think in it, starting during my interviews with Flapper and Raspberry and ending with my death.

Usually, Heptapod B affects just my memory: my consciousness crawls along as it did before, a glowing sliver crawling forward in time, the difference being that the ash of memory lies ahead as well as behind: there is no real combustion. But occasionally I have glimpses when Heptapod B truly reigns, and I experience past and future all at once; my consciousness becomes a half-century-long ember burning outside time. I perceive— during those glimpses— that entire epoch as a simultaneity. It's a period encompassing the rest of my life, and the entirety[85] of yours.

*How does Louise's consciousness now work?*

* * *

I wrote out the semagrams for "process create-endpoint inclusive-we," meaning "let's start." Raspberry replied in the affirmative, and the slide shows began. The second display screen that the heptapods had provided began presenting a series of images, composed of semagrams and equations, while one of our video screens did the same.

This was the second "gift exchange" I had been present for, the eighth one overall, and I knew it would be the last. The looking glass tent was crowded with people; Burghart from Ft. Worth was here, as were Gary and a nuclear physicist, assorted biologists, anthropologists, military brass, and diplomats. Thankfully they had set up an air conditioner to cool the place off. We would review the tapes of the images later to figure out just what the heptapods' "gift" was. Our own "gift" was a presentation on the Lascaux cave paintings.

We all crowded around the heptapods' second screen, trying to glean some idea of the images' content as they went by. "Preliminary assessments?" asked Colonel Weber.

"It's not a return," said Burghart. In a previous exchange, the heptapods had given us information about ourselves that we had previously told them. This had infuriated the State Department, but we had no reason to think of it as an insult: it probably indicated that trade value really didn't play a role in these exchanges. It didn't exclude the possibility that the heptapods might yet offer us a space drive, or cold fusion, or some other wish-fulfilling miracle.

"That looks like inorganic chemistry," said the nuclear physicist, pointing at an equation before the image was replaced.

Gary nodded. "It could be materials technology," he said.

"Maybe we're finally getting somewhere," said Colonel Weber.

**Lascaux cave painting** ( /læ'skoʊ/ ) is a network of caves near the village of Montignac, in the department of Dordogne in southwestern France. Over 600 parietal wall paintings cover the interior walls and ceilings of the cave. The paintings represent primarily large animals, typical local contemporary fauna that correspond with the fossil record of the Upper Paleolithic in the area. They are the combined effort of many generations and, with continued debate, the age of the paintings is now usually estimated at around 17,000 years

[85] entirety - the whole of something

"I wanna see more animal pictures," I whispered, quietly so that only Gary could hear me, and pouted like a child. He smiled and poked me. Truthfully, I wished the heptapods had given another xenobiology lecture, as they had on two previous exchanges; judging from those, humans were more similar to the heptapods than any other species they'd ever encountered. Or another lecture on heptapod history; those had been filled with apparent non sequiturs[86], but were interesting nonetheless. I didn't want the heptapods to give us new technology, because I didn't want to see what our governments might do with it.

I watched Raspberry while the information was being exchanged, looking for any anomalous behavior. It stood barely moving as usual; I saw no indications of what would happen shortly.

After a minute, the heptapod's screen went blank, and a minute after that, ours did too. Gary and most of the other scientists clustered around a tiny video screen that was replaying the heptapods' presentation. I could hear them talk about the need to call in a solid-state physicist.

Colonel Weber turned. "You two," he said, pointing to me and then to Burghart, "schedule the time and location for the next exchange." Then he followed the others to the playback screen.

"Coming right up," I said. To Burghart, I asked, "Would you care to do the honors, or shall I?"

I knew Burghart had gained a proficiency[87] in Heptapod B similar to mine. "It's your looking glass," he said. "You drive."

I sat down again at the transmitting computer. "Bet you never figured you'd wind up[88] working as an Army translator back when you were a grad student."

"That's for goddamn sure," he said. "Even now I can hardly believe it." Everything we said to each other felt like the carefully bland exchanges of spies who meet in public, but never break cover.

I wrote out the semagrams for "locus exchange-transaction converse inclusive-we" with the projective aspect modulation.

Raspberry wrote its reply. That was my cue to frown, and for Burghart to ask, "What does it mean by that?" His delivery was perfect.

I wrote a request for clarification; Raspberry's reply was the same as before. Then I watched it glide out of the room. The curtain was about to fall on this act of our performance.

Colonel Weber stepped forward. "What's going on? Where did it go?"

"It said that the heptapods are leaving now," I said. "Not just itself; all of them."

"Call it back here now. Ask it what it means."

"Um, I don't think Raspberry's wearing a pager," I said. The image of the room in the looking glass disappeared so abruptly that it took a

[86] non-sequitur - a statement that does not seem to follow what has just been said in any natural or logical wayv

[87] proficiency - the ability to do something well because of training and practice

[88] wind up - (of a person) to find yourself in a particular place or situation

moment for my eyes to register what I was seeing instead: it was the other side of the looking-glass tent. The looking glass had become completely transparent. The conversation around the playback screen fell silent.

"What the hell is going on here?" said Colonel Weber.

Gary walked up to the looking glass, and then around it to the other side. He touched the rear surface with one hand; I could see the pale ovals where his fingertips made contact with the looking glass. "I think," he said, "we just saw a demonstration of transmutation[89] at a distance."

I heard the sounds of heavy footfalls on dry grass. A soldier came in through the tent door, short of breath from sprinting, holding an oversize walkie-talkie. "Colonel, message from—"

Weber grabbed the walkie-talkie from him.

*Why do you think the author doesn't give the reader a single hint as to the reasons of heptapods' arrival/departure?*

* * *

I remember what it'll be like watching you when you are a day old. Your father will have gone for a quick visit to the hospital cafeteria, and you'll be lying in your bassinet, and I'll be leaning over you.

So soon after the delivery, I will still be feeling like a wrung-out towel. You will seem incongruously[90] tiny, given how enormous I felt during the pregnancy; I could swear there was room for someone much larger and more robust than you in there. Your hands and feet will be long and thin, not chubby[91] yet. Your face will still be all red and pinched, puffy eyelids squeezed shut, the gnomelike phase that precedes the cherubic[92].

I'll run a finger over your belly, marveling at the uncanny softness of your skin, wondering if silk would abrade your body like burlap. Then you'll writhe, twisting your body while poking out your legs one at a time, and I'll recognize the gesture as one I had felt you do inside me, many times. So that's what it looks like.

I'll feel elated at this evidence of a unique mother-child bond, this certitude that you're the one I carried. Even if I had never laid eyes on you before, I'd be able to pick you out from a sea of babies: Not that one. No, not her either. Wait, that one over there.

Yes, that's her. She's mine.

*Notice how the narration makes a complete circle and returns to the initial stage. Comment on such structure and effect it creates.*

* * *

That final "gift exchange" was the last we ever saw of the heptapods. All at once, all over the world, their looking glasses became transparent and their ships left orbit. Subsequent analysis of the looking

[89] transmutation - an act of changing, or of being changed, into something different
[90] incongruously - in a strange way that is not suitable in a particular situation SYNONYM inappropriately
[91] chubby - slightly fat in a way that people usually find attractive
[92] cherubic - having a round, attractive face like that of a child

glasses revealed them to be nothing more than sheets of fused silica[93], completely inert. The information from the final exchange session described a new class of super-conducting materials, but it later proved to duplicate the results of research just completed in Japan: nothing that humans didn't already know.

We never did learn why the heptapods left, any more than we learned what brought them here, or why they acted the way they did. My own new awareness didn't provide that type of knowledge; the heptapods' behavior was presumably explicable[94] from a sequential point of view, but we never found that explanation.

*What important lesson do you think Louisa learnt from the communication with the heptapods?*

I would have liked to experience more of the heptapods' worldview, to feel the way they feel. Then, perhaps I could immerse myself fully in the necessity of events, as they must, instead of merely wading in its surf for the rest of my life. But that will never come to pass. I will continue to practice the heptapod languages, as will the other linguists on the looking glass teams, but none of us will ever progress any further than we did when the heptapods were here.

*How do you understand the concept of free will as it is developed in the story and do you think Louisa has free will at the end of "Story of Your Life"?*

Working with the heptapods changed my life. I met your father and learned Heptapod B, both of which make it possible for me to know you now, here on the patio in the moonlight. Eventually, many years from now, I'll be without your father, and without you. All I will have left from this moment is the heptapod language. So I pay close attention, and note every detail.

From the beginning I knew my destination, and I chose my route accordingly. But am I working toward an extreme of joy, or of pain? Will I achieve a minimum, or a maximum?

These questions are in my mind when your father asks me, "Do you want to make a baby?" And I smile and answer, "Yes," and I unwrap his arms from around me, and we hold hands as we walk inside to make love, to make you.

[93] silica - a chemical containing silicon found in sand and in rocks such as quartz, used in making glass and cement
[94] explicable - that can be explained or understood

## Assignment 4.

**VOCABULARY SECTION for SELF-STUDY**

***1. Learn the meaning of these words, recall the context they were used in:***

parse _____
recurring _____
bottleneck _____
straitjacket _____
convoluted _____
commitment _____
incarnate _____
be bound _____
coercion _____
conversely _____
groundwork _____
performative _____
(right) on cue _____
amalgam _____
sequential _____
infinitesimal _____
entirety _____
non-sequitur _____
proficiency _____
wind up _____
cue _____
transmutation _____
incongruously _____
chubby _____
cherubic _____
explicable _____
silica _____

***2. What's the word?***

1. It is that can be explained or understood b..... **liexlcepab**
2. To divide a sentence into parts and describe the grammar of each word or part ..... **areps**
3. A statement that does not correctly follow from the meaning of the previous statement. ..... **urnoun-qiset**
4. Having a complicated structure and therefore difficult to understand. ..... **lucoevntod**
5. Extremely small ..... **fesitalinmini**
6. It happens just after someone has said or thought it would happen. ..... **tcriuonghe**
7. Something that severely limits development or activity in a way that is damaging. ..... **asitjcrtkaet**
8. To end a meeting, discussion, or an activity ..... **inpwdu**
9. Looking attractive in an innocent way, like a small child ..... **cruhiceb**
10. Forced to do something by law, duty or a particular situation ..... **edubobn**

***3. Match the words with their synonyms:***

| | |
|---|---|
| 1. adversarial | a) impenetrable |
| 2. convoluted | b) distracting |
| 3. infinitesimal | c) antagonistic |
| 4. piteously | d) microscopic |
| 5. diversionary | e) plaintively |

***4. Match words with their definitions:***

| | |
|---|---|
| 1. Commitment | a) foundation, basis; |
| 2. Cue | b) the action of making somebody do something that they do not want to do, using force or threatening to use force; |
| 3. Transmutation | |
| 4. Bottleneck | c) following a particular order; |
| 5. Proficiency | d) slightly fat in a way that people usually find attractive; |
| 6. Silica | e) a signal for someone to do something; |
| 7. Groundwork | f) a mineral that exists in various forms; |
| 8. Sequential | g) a promise to be loyal to someone or something; |
| 9. Chubby | h) an act of changing, or of being changed, into something different; |
| 10. Coercion | |
| 11. amalgam | i) great skill, ability, and experience; |
| 12. (right) on cue | j) a problem that delays progress. |
| | k) a mixture or blend; |
| | l) as if planned to happen exactly at that moment; |
| | m) the practice of persuading someone to do something by using force or threats; |

***5. Complete the sentences using a Word List:***

1. His behavior is only _____ in terms of his recent illness.
2. The staff of any organization are its best ambassadors or _____ may be its worst.
3. The poem is too long to quote in its _____ .
4. Unfortunately, this argument is a _____ .
5. I asked a couple of students to _____ these sentences for me.
6. They are _____ and determined to build their own house someday.
7. The company was _____ ___ in February with debts of $5.2 million.
8. He refused to be fitted into any ideological _____ .
9. It is a soft drink with only an _____ amount of caffeine.
10. One survivor described his torturers as devils _____ .

***6. Match words with their synonyms:***

| | |
|---|---|
| 1) incongruously; | a) absoluteness, completeness, fullness; |
| 2) chubby; | b) again, contrarily, contrariwise; |
| 3) conversely; | c) periodic, repeated, current; |
| 4) groundwork; | d) involute, tortuous; |
| 5) recurring; | e) blend, combination, mixture; |
| 6) convoluted; | f) close, complete, end, finish; |
| 7) proficiency; | g) plump, corpulent, fat, portly, roly-poly; |
| 8) amalgam; | h) inappropriately, unseemly, incongruous; |
| 9) wind up; | i) foundation, basis, base; |
| 10) entirety; | j) skillfulness, expertise, ability |

***7. Paraphrase the following using Word List:***

- to analyze something;
- in a strange way that is not suitable in a particular situation;
- the fact of being loyal to someone or something;
- the dioxide of silicon SiO2 occurring in crystalline;

- work that is done as preparation for other work that will be done later;
- a signal for someone to do or say something;
- having the effect of performing an action;
- as on command;
- the fact of having the skill and experience for doing something;
- a mixture or combination of things;

***8. Fill in the table below with the correct word:***

| Noun | Adjective |
|---|---|
| commitment | |
| | explicable |
| coercion | |
| transmutation | |
| proficiency | |
| | sequential |
| amalgam | |
| | incarnate |

***9. Fill in the gaps with the correct form of the words in capitals:***

1. All the articles had _____ numbered filenames in their directories. – SEQUENT
2. She's the _____ of everything I hate about politics. – INCARNATE
3. By looking at the _____ of a phenomenon we can get hints about what models could explain it. – ENTIRE
4. The new computer looked _____ in the dark book-filled library. – INCONGRUOUSLY
5. He suffered _____ nightmares that someone was chasing him. – RECURRENCE
6. Her abstracted gaze fell upon one of the chubby little _____ . – CHERUBIC

***10. Fill in the gaps with the correct word from the box:***

| Infant, tranquil, portrait, incarnate, unhappy, commitment, hesitation |
|---|

«…The word "_____" is derived from the Latin word for "unable to speak," but you'll be perfectly capable of saying one thing: "I suffer," and you'll do it tirelessly and without _____. I have to admire your utter _____ to that statement; when you cry, you'll become outrage _____ , every fiber of your body employed in expressing that emotion. It's funny: when you're _____ , you will seem to radiate light, and if someone were to paint a portrait of you like that, I'd insist that they include the halo. But when you're _____ , you will become a klaxon, built for radiating sound; a _____ of you then could simply be a fire alarm bell…»

### *11. Vocabulary self-check:*

**1.** If we need to **parse** a sentence, it means that we need
   a) to analyze it in terms of grammatical constituents
   b) to explain it in terms that can be more easily understood
   c) to examine it carefully and in detail
   d) to analyse it from a scientific point of view

**2.** He has a **recurring** dream about his fear of water. The word in bold means:
   a) alarming
   b) happening again or many times
   c) haunting
   d)happening without interruption

**3.** This can be a **bottleneck** in the formation of a new company. In this sentence we use the word "bottleneck" to describe
   a) a narrow entrance
   b) a stage in a process
   c) something that causes a process to happen more slowly than it should
   d) vulnerability

**4.** New legislation has become a **straitjacket** for the majority of people. In this contest the word in bold means:
   a) a strong piece of special clothing that ties the arms to the body and is used for limiting the movements
   b) anything that severely confines, constricts, or hinders
   c) the act of prohibiting.
   d) a problem

**5.** When something is unnecessarily **convoluted** we can interpret is as:
   a) unreasonably long and difficult to understand
   b) incomprehensible
   c) sophisticated
   d) intuitive

**6**. Hanna has a sincere **commitment** to religion. Choose the word that CANNOT replace the word in bold without changing the main idea of the sentence.
   a) dedication
   b) devotion
   c) allegiance
   d) obligation

**7.** This actress is a beauty **incarnate**. Find the synonym to the word in bold:
   a) embodiment
   b) implementation
   c) icon
   d) paragon

**8.** What variant from the list has the similar meaning to **"be bound"**
   a) be free
   b) be forced
   c) be obliged
   d) be encouraged

**9.** A confession under **coercion** does not prove guilt. The word in bold means:
   a) forcing
   b) voluntarily
   c) by deception
   d) extortion

**10.** And **conversely**, we older people are not fluent in the technologies essential for surviving in modern society. The word in bold can be changed into:
   1. from another side
   2. on the contrary
   3. in contrast
   4. backward

**11.** When someone tries to lay the **groundwork** for something it means
   a) start the construction work
   b) explain everything from the most difficult things
   c) teach from start to finish
   d) to give the basic knowledge

**12.** "I apologize" is a **performative** utterance because:
   1. It means the exchanging of the information
   2. a speaker could perform the action only by uttering the words.
   3. a speaker could perform the action without uttering the words
   4. it implies theatrical action

**13.** I was just wondering where he was, when, **right on cue**, he came home. The words in bold mean:

a) in a flash
b) at the unexpected time
c) at the right moment
d) from nowhere

**14.** Which of the following word we CANNOT use instead of the word "**amalgam**"

a) mixture
a) alloy
b) blend
c) metal

**15.** The methodology involves several **sequential** steps. The word in bold means:

a) the following steps are consequent on the previous ones
b) steps in no particular order
c) thoroughly planned steps
d) predetermined steps

**16.** If the object can be characterized as **infinitesimal** it means something:

a) global
b) small
c) medium-size
d) extremely small

**17**. If sth is the **entirety** of your life it takes:

a) a major part of your life
b) whole your life
c) important part of your life
d) a minor part of your life

**18.** Did I miss something important, or was this just a **non-sequitur**? Find the best equivalent to the word in bold:

a) nonsense
b) absurdity
c) fiction
d) useless

**19**. If someone gained **proficiency** in solving this task during the scientific expedition. According to this sentence the word in bold means:

a) become a scientist
b) get a degree
c) improve or master new skills
d) get new experience

**20.** When it's over, we better **turn out to be** on the right side. Find the best equivalent to the word in bold:

a) wind up
b) become
c) join
d) choose

**21**. That was my **cue** to action! The word in bold means:

a) push
b) signal
c) call
d) will

**22.** Describe the changing of one thing into another **either naturally or by nuclear reaction**

a) evolution
b) transformation
c) transmutation
d) makeover

**23.** If something is **incongruously** tiny we can interpret it as:

a) disproportionately tiny
b) incredibly tiny
c) extra tiny
d) disparate tiny

**24.** If sb called a child chubby, it means:

a) strong and healthy
b) cute and tiny
c) round and plump
d) an adorable child

**25**. Sarah was born **cherubic** and chubby. The word in bold means:

a) small and defenceless
b) young and cute
c) lovely and puffy
d) sweet and innocent

**26.** When sth is **explicable** in means:

a) it can be challenged
b) it can be explained
c) it has a supernatural origin
d) it's incomprehensible

**27.** How to explain the word **silica?**

a) carbon dioxide
b) cerium dioxide
c) chrome dioxide
d) silicon dioxide

***12. Stylistics and translation.*** Identify stylistic means and devices applied in the following sentences. Translate the sentences into Ukrainian:

1. The physical universe was a language with a perfectly ambiguous grammar. Every physical event was an utterance that could be parsed in two entirely different ways, one casual and the other teleological, both valid, neither one disqualifiable no matter how much context was available.
2. I have to admire your utter commitment to that statement; when you cry, you'll become outrage incarnate, every fiber of your body employed in expressing that emotion. It's funny: when you're tranquil, you will seem to radiate light, and if someone were to paint a portrait of you like that, I'd insist that they include the halo. But when you're unhappy, you will become a klaxon, built for radiating sound; a portrait of you then could simply be a fire alarm bell.

***13. Translate into English using Word List:***

1. Незважаючи на те, що я добре розбираюся в гептаподі Б, я знаю, що не сприймаю реальність так, як це робить гептапод. Мій розум був відлитий у формі людських послідовних мов, і ніяке занурення в чужу мову не може повністю змінити його. Мій світогляд – це суміш людини і гептапода.
2. Це повторювана тема в моральній філософії Канта. Кант явно відкидає рівняння свободи вибору і свободи волі.
3. Ми пов'язані урочистим зобов'язанням захищати один одного.
4. Твої ручки і ніжки будуть довгими і тонкими, ще не пухкими. Твоє обличчя все ще буде червоним і зморщеним, опухлі повіки щільно зімкнуті, фаза, схожа на гнома, яка передує херувиму.
5. Я повинна захоплюватися твоєю повною відданістю цьому твердженню; коли ти плачеш, ти стаєш повним втіленням обурення, наче кожна клітинка твого тіла використовується для вираження цієї емоції.

**DISCUSSION.**

***14. Self-check Questions to the Contend of Part 4.***

**1.** What is the meaning of Dr. Banks' references to Colonel Weber sticking to a script?
   a) Dr. Banks experiences Colonel Weber's words as something that he wrote and decided upon in the future;
   b) Dr. Banks experiences Colonel Weber's words as something that has already been decided upon – like lines in a script;
   c) She knows that Colonel Weber is starting to experience different times in the same moment, she believes that he knows he is speaking lines as he wrote them some time ago.

**2.** Which story does Dr Banks read to her daughter?
   a) Red Riding Hood;
   b) Little The Princess and the Pea;
   c) Goldilocks and the Three Bears.

**3.** What does the semagrams "process create-endpoint inclusive-we" mean?
   a) Let's start;

b) Let's exchange information;
c) Let's talk.

**4.** What lectures of heptagons interested Louise the most?

a) Xenobiology lectures;
b) Physics lectures;
c) Chemistry lectures.

**5.** When Dr. Banks suggests that her colleague is as fluent in Heptabod B as she is, what is the implication?

a) That they are being controlled and manipulated by the heptapods;
b) That her colleague has started to experience time in the same sort of different way as she has;
c) That her colleague has also become able to have actual verbal conversations with the heptapods.

**6.** What gift do people give to heptapods?

a) Presentation of the construction of the human body;
b) Presentation on the Lascaux cave paintings;
c) Knowledge of how to make weapons.

**7.** Who announces that heptapods are leaving the Earth.

a) Colonel Weber;
b) Flapper;
c) Raspberry.

***Story of your Life*** vs ***Arrival***

**Assignment 5.**

***Arrival*** (film, director Denis Villeneuve, 2016).

**General questions to the content of the movie:**

1. Define the major similarities and differences between the story and the film. Think about each different feature. Does it change the meaning / ideas of the story? Does it improve it or make it even harder to understand?
2. At what point in her life does Louisa tell her story in the book and in the film?
3. What priority questions do the scientists need the answers to?
4. When does Louisa start seeing the future?
5. How did Dr. Banks get the job in the book and in the film? What is the translation of the word "war" into Sanskrit? What is the significance of this word in the film?
6. What is heptapods' purpose of arrival in the film? Compare what you learn or expect/guess of the aliens' purpose of visiting the Earth in the film and in the story.
7. What is the weapon that they offer?
8. Why do you think the film changed some elements of the plot? (e.g. unstoppable illness of Louisa's daughter, China and the whole world's involvement with the aliens)
9. How does the film show that aliens mean no harm to humanity? What is humans' attitude to the aliens? Why?
10. Ted Chiang never talks about the financial crisis or escalation of the world conflicts as soon as aliens arrived. Why did the film change that? Why did aliens' arrival cause so much panic and violence? What are people's expectations? Why are the aliens regarded as monsters?
11. Why is one heptapod killed?
12. What is Louisa's role in stopping the world conflict? Why was a woman chosen for this role? Why do you think we never find out what General Shang said to her at the party?
13. Comment on the difference in gifts that the heptapods offered in the book and in the film. Do they make sense in both contexts?
14. Do you think that the change of names (Ian instead of Gary, the heptapods Abbott and Costello instead of Raspberry and Flipper) is significant? Or is it just a whim of the script-writer?

**Analyze he imagery in the film:**

1. Comment on the heptapods' appearance, their spacecraft (the shell), their written language
2. What equipment did the scientist bring to work with the aliens? How it is different from the story? Why did they take the bird in the cage? Does it symbolize anything? Notice that the bird's chirping is often heard when Louisa is working with the heptapods.
3. Comment on the choice of the cast. Are you content with the star-actors? Can you think of a better choice of the cast?

**Comment on the camera work:**

Notice the repeated images – of the bird in the cage, Mather-and-Father cartoon on the wall, the animals Louisa's daughter makes from the plasticine. Do they acquire additional meaning?

Notice close shots of Louisa's face accompanied by her heavy breathing. Share your impressions.

**Music:**

Comment on the music used in the film.

What effects does it create?

**Specific question:**

1. Language.

   What is non-linear orthography?

   What are your ideas of semasiographic language? Do you agree that our form of writing is a wasted opportunity?

   Though the narrator of the story is Louisa, the episode of the linguistic progress is told by Ian. Why?

   Comment on the idea of *The Universal Language* as a gift. What might be the use of it?

2. Language vs Science:

   Ian quotes Louise's words from her book: "*Language is the foundation of civilization. It is the glue that holds a people together. It is the first weapon drawn in a conflict*." Ian disagrees and retorts: "*The cornerstone of civilization isn't language, it's science.*" Whose point of view o you share? Can they be both correct? Or both incorrect? What is the significance of this quote in the context of the film? Can it be applied to the story as well?

In the story, it's Fermat's Principle of the Least Time that helps Louisa understand heptapods' language and perception of time. What helped her in the film? Why o you think there's almost no physics in the film?

3. Time. Future:

   Louise asked Ian: "*If you could see your future from start to finish, would you change thing?*" What did he answer? What would you answer? Why?
   How does the film/book render the idea of non-sequential time perception that Louisa acquires?

4. Louise and her husband relations:

   What do we learn about it from the story? From the film?
   Why did they divorce? What wrong choice do you think Ian blamed Louise for taking in the film? Do you agree with him?
   Why is she the only one fighting her daughter's disease (esp. assuming that she knows that the outcome is fatal)? Why isn't Ian with her?

5. How is this film different from other planetary-fiction films like "Star Wars", "Aliens", "The Martian", "Interstellar", or" Star Treks"?

**Themes:**
Define the main themes in both the film and the story.
Are they similar? Different?
Prove you point with specific examples.

## QUESTIONS FOR FINAL DISCUSSION

1. *Language and Perception*: How does the Sapir-Whorf Hypothesis play a role in the story? Do you believe language can shape our perception of reality as it does for the protagonist?

2. *Determinism vs. Free Will*: How does the story explore the themes of determinism and free will? Do you think Dr. Banks' knowledge of her future affects her choices, or does it merely reflect a predetermined path?

3. *Non-linear Time*: How does the non-linear perception of time impact the narrative structure of the story? How does it affect your understanding of the protagonist's experiences?

4. *Emotional Impact*: How does knowing the future affect Dr. Banks emotionally, especially concerning her daughter? Would you want to know your future if you could?

5. *Science and Communication*: What does the story suggest about the relationship between science and human experience? How do the aliens' language and Dr. Banks' research bridge these two areas?

6. *Role of Memory*: In what ways do memory and premonition intertwine in the story? How does this affect the way we perceive past, present, and future?

7. *Cultural Exchange*: What are the implications of the cultural exchange between humans and the Heptapods? How does it affect human understanding of their place in the universe?

8. *Personal vs. Professional Life*: How does Dr. Banks' professional life intersect with her personal life? What does this reveal about her character?

9. *Parenthood*: How does Dr. Banks' relationship with her daughter shape the narrative? How does her foreknowledge of her daughter's life and death influence her as a mother?

10. *Grief and Acceptance*: How does the story address the themes of grief and acceptance? In what ways does Dr. Banks' acceptance of her daughter's fate reflect broader existential themes?

11. *Ethical Considerations*: What ethical dilemmas does Dr. Banks face in the story? How does her knowledge of the future affect her decisions regarding her daughter's life?

12. *Alien Perspective*: How do the Heptapods' perspective on time and language challenge human concepts of communication and existence? What can we learn from their worldview?

13. *Narrative Technique*: How does Chiang's use of a dual narrative (past and future) enhance the story's themes? What effect does this have on the reader's experience?

14. *Impact of the Heptapods*: How do the Heptapods' arrival and language influence human society and scientific communities? What broader commentary does this offer on cross-cultural interactions?

15. *Philosophical Questions*: What philosophical questions does the story raise about the nature of time, consciousness, and human experience? How do these questions resonate with you personally?

## SUGGESTED ESSAYS TOPICS

1. In your own words, describe the breakthrough the physicists had. How does Dr. Banks connect this principle to the language, Heptapod B?
2. Comment on the general structure of the story. What effect does it achieve? Does it make Ted Chiang's main idea more understandable?
3. Comment on the quotation: "Those who know the future don't talk about it. Those who've read the Book of Ages never admit to it."
4. Comment on the quotation: "Ease of learning isn't the primary force in language evolution."
5. Think about the image of aliens Ted Chiang created and possible reasons why they visited the Earth?
6. How did learning heptapods' language help Louisa see the future?
7. Comment on the general structure of the story. What effect does it achieve? Does it make Ted Chiang's main idea more understandable?
8. Dwell on Louisa's daughter's character and their relationship. Prove your point with the information from the text.
9. How do you understand the concept of free will as it is developed in the story and do you think Louisa has free will at the end of "Story of Your Life"?
10. What important lesson do you think Louisa learnt from the communication with the heptapods?
11. Offer your own essay topic, based on the themes of the novella. Some of the major themes that this story deals with include *motherhood*, *linguistic discovery*, *free will*, *scientific progress* and others. Identify the themes presented in the story and be ready to write about one of them. Base your ideas on the text.

## Criteria for an essay.

1. The length - about 800-1000 words.

2. Original. Meaning, your own. Beware of plagiarism check)

3. Your point of view is all important, but don't forget about GRAMMAR, Vocabulary, Structure. Grammar should be high level, with difficult sentences and a nice combination of tenses, voices, correct prepositions, etc.

4. Vocabulary – active!!!

5. The structure:

1) first para - short summary of the story (up to 3 sentences); then form your thesis that will correspond to the chosen topic.

2) second-fourth paragraphs - start with the topic sentence (your own!) that reflects the thesis, use the quote from the text to prove your idea, explain the quote. Finish each paragraph nicely with a concluding sentence that will correspond to your topic sentence.

(The quote shouldn't be too long!! Please, use Ted Chiang to prove your point but do not turn YOUR essay into a combination of wise quotes from the story)

3) final - conclusion. Unless the essay topic asks you to express your opinion, please, restrain from doing it even in the final para. Just wind up neatly what you have said before. Do not finish your essay with a quote. This usually suggests that you have nothing to say of your own, which is sad.

# Analytic Rubric for the writing assignment

| Criterion | Description | Good | Fair | Needs work |
|---|---|---|---|---|
| **Context** | • The introduction clearly states the context for the topic and inspires the interest of the reader.<br>• The working thesis answers the implicit question of the title – what kind of reader you are, identifies your readership position, and introduces the aspects you discuss in the body of the paper. | | | |
| **Content** | • The controlling ideas that you develop correspond to the suggestions in the assignment prompts. Your own additional insights are relevant to the topic.<br>• Each paragraph includes description, details, explanations, and specific examples which develop the supporting points in an effective way.<br>• You avoid repeating the same ideas several times or in different words. | | | |
| **Organization** | • The text is at least 800 words.<br>• Each paragraph is devoted to a new idea and starts with a topic sentence that comprises the main point of the paragraph and relates to the thesis.<br>• Supporting ideas in each paragraph are developed logically, from a general statement to specific details. In case you include a quote, its meaning is explained and its relevance is clear.<br>• Transition between main points is effective.<br>• The Conclusion reinforces the main idea of the essay and inspires the reader's desire to respond. | | | |
| **Language** | It is a literature assignment, but remember that this is an English language essay, which means that you have done proofreading and:<br>• Grammar is of high level, with difficult sentences and a nice combination of tenses, voices, articles, correct prepositions, etc.<br>• Vocabulary is Upper-Intermediate. The words and expressions you use make your ideas precise and coherent. | | | |

| | | | | |
|---|---|---|---|---|
| | • You follow British or American English rules, not both at the same time.<br>• The spelling is correct. | | | |
| **Style** | • The document is formatted correctly in terms of font, margins, line spacing, paragraph, indentation, capitalization, title, and page numbers.<br>• If there is a quotation, it is done in a correct MLA format. | | | |

**Addendum 1.**

## Active Vocabulary

| | | |
|---|---|---|
| 1. sappy | 2. suffice | 3. call it quits |
| 4. to conceive | 5. redundant | 6. I'm game |
| 7. vague | 8. implication | 9. gourmet |
| 10. to withhold | 11. preeminence | 12. parse |
| 13. noncommittal | 14. (work) in earnest | 15. recurring |
| 16. all bets are off | 17. hit a wall/a roadblock | 18. bottleneck |
| 19. bits and pieces | 20. gibbering | 21. straitjacket |
| 22. momentous | 23. defiance | 24. convoluted |
| 25. orderly | 26. refraction | 27. commitment |
| 28. to marvel | 29. impenetrable | 30. incarnate |
| 31. uncanny | 32. unambiguous | 33. be bound |
| 34. to gawk | 35. exasperation | 36. coercion |
| 37. to disconcert | 38. jubilant | 39. conversely |
| 40. eerie | 41. topsy-turvy | 42. groundwork |
| 43. orifice | 44. blithe | 45. performative |
| 46. compatibility | 47. calculus | 48. (right) on cue |
| 49. nagging cough | 50. hangdog expression | 51. amalgam |
| 52. tentative | 53. put your finger on sth | 54. sequential |
| 55. moose | 56. bug somebody | 57. infinitesimal |
| 58. intelligible | 59. in a huff | 60. entirety |
| 61. ruggedly | 62. cohesive | 63. non-sequitur |
| 64. conspicuous | 65. premise | 66. proficiency |
| 67. to inhibit sb | 68. precedence | 69. wind up |
| 70. Incongruous | 71. prospector | 72. cue |
| 73. conglomeration | 74. adversarial | 75. transmutation |
| 76. to be reminiscent of | 77. rub off | 78. incongruously |
| 79. to catch up with | 80. assertion | 81. chubby |
| 82. curve | 83. blathering | 84. cherubic |
| 85. modulation | 86. diversionary | 87. explicable |
| 88. full-fledged | 89. piteously | 90. silica |

## Addendum 2.

# KEYS

## PART 1.

**Word List**

**sappy** – сентиментальний, Excessive sentimentality or emotionality
**to conceive** – зачати, to become pregnant, or to cause a baby to begin to form
**vague** – нечіткий, not clear in a person's mind
**to withhold** – приховати, refuse to give sth. to sb
**noncommittal** - Беззобов'язаний, ухильний, not giving an opinion; not showing which side of an argument you agree with
**all bets are off -** Всі ставки скасовані, used to say that if a particular event happens then your current prediction, agreement, etc. will no longer apply
**bits and pieces** -фрагменти, куски - small things or jobs of different types
**momentous** – вагомий, very important or serious
**orderly** – санітар - a person who works in a hospital, doing jobs that do not need any special training.
**to marvel** – дивуватись - be very surprised or impressed by sth.
**uncanny** – надприродний, жуткиц - strange or mysterious, often in a way that is slightly frightening
**to gawk** – витращатися - stare at sb./sth. in a rude or stupid way – gape
**to disconcert** -збити з пантелику - make sb. feel anxious, confused or embarrassed – disturb
**eerie** – моторошний - strange, mysterious and frightening
**orifice** – отвір - a hole or opening, especially one in the body
**compatibility** - сумісність - ability of people or things to live or exist together without problems
**nagging cough** – надокучливий - difficult to cure or remove
**tentative** – попередній - not definite, or not certain
**moose** – американський лось - a large deer that lives in North America
**intelligible** - зрозумілий - can be easily understood
**ruggedly** – грубо - in a strong, attractive way
**conspicuous** – помітний - easy to see or notice
**to inhibit sb** - перешкоджати - make somebody nervous or embarrassed so that they are unable to do something

***Ex. 2. Answers*:** 1 c; 2 f; 3 i; 4 h; 5 e; 6 g; 7 d; 8 b; 9 a

***Ex. 3. Possible answers:***

| | |
|---|---|
| *momentous* | *decision/event/occasion* |
| *eerie* | *feeling* |
| *uncanny* | *feeling* |
| *a vague* | *impression/memory/recollection* |
| *sappy* | *movie* |
| *incongruous* | *Images, couple.* |
| *conspicuous* | *place, success, feature* |
| *rugged* | *good looks* |
| *nagging* | *doubts/pain, wife* |

***Ex. 5. Answers***: 1 d; 2 b; 3 d; 4 b; 5 a; 6 d; 7 d; 8 b; 9 c; 10 b; 11 d; 12 c; 13 b

***Ex. 7. Stylistics and translation.*** Identify stylistic means and devices applied in the following sentences.

| | |
|---|---|
| 1. …so he humors me and now we're slow-dancing, a pair of <u>thirtysomethings</u> *swaying back and forth in the moon-light like kids*. | comparison |
| 2. The recording sounded vaguely like that of a wet dog shaking the water out of its fur. | simile |
| 3. I walked up to the looking glass and a heptapod on the other side did the same. The image was so real that my skin crawled. I could see the texture of its gray skin, like corduroy ridges arranged in whorls and loops. | hidden comparison? |
| 4. "Step right up," he said, circus-barker-style. "Marvel at creatures the likes of which have never been seen on God's green earth." | epithets<br>hidden comparison |
| 5. It looked like a barrel suspended at the intersection of seven limbs. It was radially symmetric, and any of its limbs could serve as an arm or a leg. The one in front of me was walking around on four legs, three non-adjacent arms curled up at its sides. | simile<br>epithet<br>ellipsis |
| 6. Whatever their underlying structure, the heptapod's limbs ***conspired*** to move it in a disconcertingly fluid manner. Its "torso" rode atop the rippling limbs as smoothly as a hovercraft. | epithet<br>metaphor<br>simile |

***Ex. 8. Translation:***

1. Hannah was so disconcerted and excited by his uncanny powers and eerie performance that she couldn't say anything intelligible about it and withheld from any comments.
2. The girl was watching a sappy melodrama, and it reminded her of that ruggedly handsome man she had seen at the momentous conference in Prague. Her conspicuous shyness prevented her from making even tentative, vague, or noncommittal remarks when he was nearby.
3. The woman wasn't a nagging wife, and her husband always marveled at her uncanny strength of will to rebuild their relationship from the bits and pieces he had left her with after his sappy affair with a colleague.

***Ex. 9. Self-check answers***: 1 c; 2 b; 3 c; 4 c; 5 b; 6 a; 7 a; 8 a; 9 c; 10 a; 11 b; 12 a; 13 c; 14 a; 15 a

## PART 2.

**Word List**

**Incongruous –** невідповідний.
**Conglomeration** – суміш, накопичення.
**to be reminiscent of** – нагадувати щось.
**to catch up with** – наздоганяти.
**Curve** – хвиля, крива.
**Modulation**- модуляція, зміна.
**full-fledged** – розвинутий, повноцінний.
**Suffice** – достатньо.

**Redundant** – непотрібний, зайвий.
**Implication** – наслідок.
**Preeminence** – перевага.
**(work) in earnest** – всерйоз.
**Hit a wall** – зайти в тупік.
**gibbering** – торохтіти, швидко говорити.
**Defiance** – порушення, непокора.
**refraction** – заломлення.
**impenetrable** – непроникний, недоступний.
**unambiguous** – однозначний.
**exasperation** – роздратування, гнів.
**jubilant** – радісний, лікуючий.
**topsy-turvy** – перевернутий.

***Ex. 2. Answers*:** 1 d; 2 h; 3 a; 4 b; 5 f; 6 i; 7 c; 8 e; 9 j; 10 g

***Ex. 3. Answers*:** 1 f; 2 c; 3 i; 4 d; 5 a; 6 g; 7 h; 8 j; 9 b; 10 e

***Ex. 5. Answers*:** 1 b; 2 a; 3 b; 4 c; 5 d; 6 c; 7 c; 8 a; 9 b; 10 d; 11 d; 12 b; 13 a

***Ex. 7. Translation.***

1. I saw my partner walking toward the trailer, and ran to catch up with him. Something about this experiment felt odd to me, but I couldn't put my finger on it. We had been hitting a wall for a long time trying to give an answer why their language system was so impenetrable to us. Perhaps, their language system was topsy-turvy relative to ours.
2. The scientists gathered around the table and started gibbering loudly. Suddenly there was a knock at the door and before I could answer my assistant came in looking jubilant. "I think they have a full-fledged writing system which completely differs from their speech. That`s incredible!"
3. "You've given up, haven't you?" I said. He did a wonderful hangdog expression. "I'm just no good at languages," he confessed. "Seeing you in this state is really bugging me," I said.
4. And after graduation, you'll be heading for a job as a financial analyst. I won't even understand what you do there, I won't even understand your fascination with money, the preeminence you gave to salary when negotiating job offers. I would prefer it if you'd pursue something without regard for its monetary rewards, but I'll have no complaints. You'll do what makes you happy, and that'll be all I ask for.

**Ex. 8. Self-check Answers:** 1. B; 2. A; 3. B; 4. C; 5. C; 6. B; 7. A; 8.a; 9. B; 10. C

## PART 3

**Word List**

Blithe – несерйозний, безтурботний.
calculus - обчислення.
hangdog expression – винний.
put your finger on sth - дізнатись справжню причину.

bug somebody –дратувати.
in a huff – в поганому настрої.
cohesive – цілісний, зв'язний.
premise – основа.
precedence – важливість, перевага.
prospector – добувач, розвідник.
adversarial – ворожий
rub off – наслідувати, передатися.
assertion – твердження.
blathering – базікання.
diversionary – відволікаючий.
piteously – жалібно.
call it quits – закінчувати.
I'm game – погоджуватись.
Gourmet – гурман.

***Ex. 2. Answers*:** 1 c; 2 i; 3 a; 4 b; 5 g; 6 h; 7 f; 8 d

***Ex. 3. Possible Answers:***
1. infinitesimal change, infinitesimal amount
2. diversionary maneuver, diversionary tactics
3. cohesive group, cohesive actions
4. convoluted argument
5. gourmet market, gourmet food
6. incarnate a vision in a painting
7. coercion of law, coercion hospitalization

***Ex. 5. Answers:***
1.gourmet
2.in a huff
3.cohesive
4.precedence
5.calculus
6.adversarial
7.piteously
8.hangdog expression
9.diversionary

***Ex. 6. Variant of translation:***
1. I tried to say my assertion several times, but he kept blathering with his friend, pretending not to hear me, so I walked away in a huff.
2. This project seemed so convoluted that I could not imagine how to incarnate it. A few hours later, I call it quits, phoned my colleague and piteously begged him for help.
3. Yesterday, a prospector found an unknown material that was an amalgam of gold, copper and some other elements. As it turned out, the gold content was infinitesimal compared to the entirety of the material and it made him sad.

4. I was watching a movie when a friend of mine called me and offered to go to the gourmet market to buy groceries and cook something delicious. Without hesitation, I replied: «I'm game».

***Ex. 7. Answers*:** 1 b; 2 c; 3 c; 4 b

***Ex. 8. Self-check answers***: 1 ; 2 b; 3 a; 4 a; 5 b; 6 b; 7 a; 8 c; 9 b; 10 b; 11 c

## PART 4

**Word List**
parse – аналізувати, розбирати;
recurring – циклічний, повторний, постійний;
bottleneck – вузьке місце, слабке місце;
straitjacket – гамівна сорочка;
convoluted – звивистий, заплутаний;
commitment – відданість;
incarnate – втілення, втілений;
be bound – бути пов‘язаним, зобов’язаним;
coercion – примус;
conversely – навпаки;
groundwork – основа, підвалини;
performative – перформативна мова;
(right) on cue – як по команді;
amalgam – суміш;
sequential – послідовний;
infinitesimal – нескінченно малий;
entirety – все, цілісність, повністю;
non-sequitur – непослідовність;
proficiency – навичка, майстерність, вправність;
wind up – закінчувати, припиняти;
cue – натяк, репліка;
transmutation – трансмутація, перетворення;
incongruously – недоречно;
chubby – пухкенький;
cherubic – херувим, ангелоподібний;
explicable – з’ясовний;
silica – кварц.

***Ex. 2. Answers:***

1. explicable
2. parse
3. non-sequitur
4. convoluted
5. infinitesimal
6. right on cue
7. straitjacket

8. wind up
9. cherubic
10. be bound

***Ex. 4. Answers*****:** 1 g; 2 e; 3 h; 4 j; 5 i; 6 f; 7 a; 8 c; 9 d; 10 b; 11 k; 12 l

***Ex. 5. Answers*****:**

1. Explicable
2. conversely
3. entirety
4. non-sequitur
5. parse
6. bound
7. wind up – **wound up**
8. straitjacket
9. infinitesimal
10. incarnate

***Ex. 6. Answers*****:** 1 h; 2 g; 3 b; 4 i; 5 c; 6 d; 7 j; 8 e; 9 f; 10 a

***Ex. 7. Answers:***

- to analyze something; - **to parse**
- in a strange way that is not suitable in a particular situation; - **incongruously**
- the fact of being loyal to someone or something; - **commitment**
- the dioxide of silicon SiO2 occurring in crystalline; - **silica**
- work that is done as preparation for other work that will be done later; - **groundwork**
- a signal for someone to do or say something; - **cue**
- having the effect of performing an action; - **performative**
- as on command; - **(right) on cue**
- the fact of having the skill and experience for doing something; - **proficiency**
- a mixture or combination of things; - **amalgam**

***Ex. 8. Answers:***

| **Noun** | **Adjective** |
|---|---|
| commitment | *committed* |
| *explication* | explicable |
| coercion | *coercible* |
| transmutation | *transmuted* |
| proficiency | *proficient* |
| *sequent* | sequential |
| amalgam | *amalgamated* |
| *incarnation* | incarnate |

***Ex. 9. Answers:***
1. sequentially
2 incarnation
3. entirety
4. incongruous
5. recurring
6. cherubs.

***Ex. 10. Answers:***

«…The word "***infant***" is derived from the Latin word for "unable to speak," but you'll be perfectly capable of saying one thing: "I suffer," and you'll do it tirelessly and without ***hesitation***. I have to admire your utter ***commitment*** to that statement; when you cry, you'll become outrage ***incarnate***, every fiber of your body employed in expressing that emotion. It's funny: when you're ***tranquil***, you will seem to radiate light, and if someone were to paint a portrait of you like that, I'd insist that they include the halo. But when you're ***unhappy***, you will become a klaxon, built for radiating sound; a ***portrait*** of you then could simply be a fire alarm bell…»

***Ex. 11. Answers***: 1 a; 2 b; 3 c; 4 b; 5 a; 6 d; 7 a; 8 c; 9 a; 10 b; 11 d; 12 b; 13 c; 14 a; 15 a; 16 d; 17 b; 18 a; 19 c; 20 a; 21 b; 22 c; 23 d; 24 c; 25 d; 26 b; 27 d

***Ex. 13. Variant of translation.***

1. Even though I'm proficient with Heptapod B, I know I don't experience reality the way a heptapod does. My mind was cast in the mold of human, sequential languages, and no amount of immersion in an alien language can completely reshape it. My world-view is an amalgam of human and heptapod.
2. This is a recurring theme in Kant's moral philosophy. Kant explicitly rejects the equation of freedom of choice and freedom of will.
3. We are bound by solemn commitment to defend one another.
4. Your hands and feet will be long and thin, not chubby yet. Your face will still be all red and pinched, puffy eyelids squeezed shut, the gnome-like phase that precedes the cherubic.
5. I have to admire your utter commitment to that statement; when you cry, you'll become the complete outrage incarnate, as if every fiber of your body employed in expressing that emotion.

***Ex. 14. Answers:*** 1 b; 2 c; 3 a; 4 a; 5 b; 6 b; 7 c

**Addendum 3.**

**Commentaries on the book and the film**

## PHYSICS VS LYRICS IN TED CHIANG'S "A STORY OF YOUR LIFE" AND ITS FILM ADAPTATION "ARRIVAL"[95]

When Ted Chiang, a famous American sci-fi author, wrote about the history behind the creation of his famous novella 'A Story of Your Life' (first publication in 1998), he mentioned that he was inspired by the idea of showing how people behave when they face inevitable. The protagonist, a bright linguist Dr. Louisa Banks, acquires a new skill of seeing the future as a result of her mind-altering experience of learning the language of the aliens. Thus, she learns about the tragic future of her daughter before the baby is even conceived. So the question arises, can you change the future if you know it, and how can you embrace the inevitable if you can't change it.

Close reading, though, reveals a great number of other no less interesting questions that the author, inadvertently or not, offers for the reader's consideration. One of them is the ages-long confrontation of physicists and artists, natural vs humanitarian sciences. This problem is further developed in the Denis Villeneuve's 2016 film adaptation 'Arrival' and has also been a topic for a number of scientific research that place this novella *"in the context of the crisis in the Humanities which has marked universities over the last few years, and can be linked to a more general crisis in liberal values"* [2, p. 107].

In the story, to uncover the reasons for the aliens' arrival on Earth, learn/understand their language and learn pretty much everything possible from them, Ted Chang teams the linguist, Louisa Banks, with the physicist, Dr. Gary Donnelly. Though not so obvious in the novella, their confrontation in the film starts immediately with Ian (Gary's name is changed to Ian in the film) quoting from Louisa's book: "*Language is the foundation of civilization. It is the glue that holds a people together. It is the first weapon drawn in a conflict*" and then retorting: "*The cornerstone of civilization isn't language, it's science*" [1]. The development of the events in the film proves him completely wrong as it will be Louisa, the linguist, with her ability to decipher aliens' language as well as understand their purposes on the Earth that will help her save the world from the global war.

[95] (first published in *Актуальні проблеми лінгвістики та методики викладання іноземних мов у вищому навчальному закладі та школі*: тези доповідей та повідомлень наукової конференції викладачів та студентів факультету іноземних мов. Випуск 26 [31 травня 2022 р.] / Гол.ред. Т.І. Ямчинська. Вінниця: ТОВ «Друк плюс», 2022. С. 67-69.)

In the book, Ted Chang spends as much time and space explaining the intricacies of the language as of the variable physics and Fermat's principle of least time, the physical law that seems to offer some glimpses of aliens' mentality. The abstract phenomenon of the language is linked even to the alien's physical features, its general appearance. "*It looked like a barrel suspended at the intersection of seven limbs. It was radially symmetric, and any of its limbs could serve as an arm or a leg*" [3, p. 84]. The scientists later would be able to draw parallels between aliens' bodies' radial symmetry and their logographic writing: "*their bodies have no "forward" direction, so maybe their writing doesn't either*" [3, p.91]. They will recognize heptapod's non-linear orthography and this will help them understand their perception of the physical world. Time is a nonlinear concept for the aliens. And language, as it seems, shows the way to understand it.

If we think of this problem in terms of the much disputed Sapir-Whorf hypothesis, the theory of linguistic relativity, the structure of heptapods' language could influence or even determine their mental development and world views.

A close look at Ted Chiang's linguistic ideas regarded through the prism of "physical" laws and physical properties shows that aliens' semasiographic language directed their civilization's development along a completely different way from the humans': *"We experienced events in an order, and perceived their relationship as cause and effect. They experienced all events at once, and perceived a purpose underlying them all"* [3, p. 159]. While studying the heptapods' language, Louisa changes her ways of perception and develops a simultaneous mode of consciousness. Seeing the future, probably, doesn't make her happier. For us though, the important issue is the role of the language, and its, in R. Barthes words, "terroristic nature" [4] which requires recognition, very conscientious attention to its use, and further study.

## Bibliography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## Students Commentaries

This story revolves around two main topics - the importance of language and determinism. We shall consider the second one in detail. So, determinism - is a philosophical view, where all events are determined completely by previously existing causes. Deterministic theories throughout the history of philosophy have developed from diverse and sometimes overlapping motives and considerations. The opposite of determinism is some kind of indeterminism or randomness. Determinism is often contrasted with free will, although some philosophers claim that the two are compatible.

The narrator of the story - a linguist Dr.Louise Banks studies the alien's language Heptapod B, and soon becomes quite proficient at it. She finds out that when writing in it, her trains of thought are directionless, and premises and conclusions are interchangeable. She finds herself starting to think in Heptapod B and begins to see time as heptapods do. Louise sees glimpses of the future, where she sees that her, not yet conceived child is going to die.

This brings up the question about the nature of free will: does it exist at all? Does the knowledge of the future cancel your free choice completely? Would you be able to change the future depending on your choices?

I believe that the future can be changed, even if you know it. To prevent her daughter's death, Louise could have chosen not to have one, it was her free choice. Still, she decided to have one to get her happy 20 years, which sounds cute, yet there is something selfish about it. She decided to succumb to her fate.

However, despite her intentions being kind of selfish, she became a great mother. It takes a great effort not to let your knowledge of the future affect your actions, and Louise pretty much behaved like a normal mother, not letting her daughter do whatever she wants, just because she knew how little time they had together.

To conclude, I think that free will exists, but it is for the best that people cannot see their future, since it takes a lot of willpower to not get carried away by your knowledge.

## REFERENCES


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**NOTES**