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Not typical road landscape complexes: the core essence, classification, significance

The article deals with the problems of the core essence, classification and significance of not typical road landscape complexes with the aim of their modern and future rational use and protection. The road and the road landscape are two different, but closely related concepts. Not typical road landscapes include dirt roads and paths. Among the landscapes of the dirt roads is possible to differentiate rural, field and forest roads, which are characterized by the following features: widespread, considerable length with a small width, non-consumption, ecological compatibility, durability and aesthetics. These are the very features which single out the dirt roads as original, non-typical landscape complexes in the structure of road landscapes. The further classification of roads is considered by the types of terrain. Paths are also considered depending on their reference to the corresponding types of terrain – floodplain, terraced, sloped, flat and water-dividing, Tovtry and others. Types of tracts in landscape complexes of soil roads and paths should be allocated according to the lithological composition of roads and paths as well as their vegetation cover.

Key words: dirt road, path, road landscape, structure, classification, significance.

Денисик Г.І., Вальчук-Оркуша О.М. Нетипові дорожні ландшафтні комплекси: сутність, класифікація, значимість. Розглянуто проблему пізнання сутності, класифікації та значимості нетипових дорожніх ландшафтних комплексів з метою їх сучасного і майбутнього раціонального використання й охорони. Дорога й дорожній ландшафт – два різних, але тісно взаємопов'язаних між собою поняття. До нетипових дорожніх ландшафтних комплексів віднесено ґрунтові дороги і стежки. Серед ландшафтних комплексів ґрунтових доріг виділено сільські, польові та лісові, для яких характерні такі ознаки: широке розповсюдження, значна протяжність при невеликій ширині, безвитратність, екологічність, тривалість функціонування та естетичність. Ці ознаки й виокремлюють ґрунтові дороги як своєрідні, нетипові ландшафтні комплекси в структурі дорожніх ландшафтів. У подальшому класифікація доріг розглянута за типами місцевостей. Стежки теж розглянуті у залежності від їх приуроченості до відповідних типів місцевостей – заплавної, терасової, схилової, плакорної і вододільної, товтрової та інших. Види урочищ ландшафтних комплексів ґрунтових доріг і стежок доцільно виділяти за літологічним складом доріг і стежок та їх рослинним покривом.
Ключові слова: ґрунтова дорога, стежка, дорожній ландшафт, структура, класифікація, значимість.

Dirt ("field") roads. Among the scientists, especially those from the schools of classical landscape studies, the attitude towards the ground roads, as a kind of landscape complexes, is ambiguous, sometimes even skeptical. It is not coincidental, therefore, that on any landscaping maps, including fine-scale ones, dirt roads are not shown at all. Among other maps deserving our close attention are topographical maps, especially the ones for military needs, where dirt roads are provided with minimal information about them. Moreover, there are no detailed descriptions of dirt roads, not all of them, of course, but most of these roads in some regions. There are several reasons for this steady neglect of the dirt roads by scientists. Furthermore, these roads are thought to be predominantly temporary ("they can be at the present moment, and disappear the next day" – from the survey questionnaires) and the costs for their functioning are minimal. This approach is quite at odds with reality on the grounds of unique features of dirt roads as peculiar parts of landscape complexes. Among the features which can distinguish the dirt roads from other types of road landscapes are:

– *widespread.* Dirt roads may occur even where highways and railways are either difficult to find or impossible to build. Apparently, there is not a single country in

the world, which would not have dirt roads in the structure of its road landscapes. These roads have become so customary that they go unnoticed.

- *considerable length at a small width*. It is difficult, though necessary, to calculate the total length of dirt roads and, accordingly, the area they occupy. One can only predict that the data obtained will be significantly more "solid" than the length and area of modern highways and railways taken together;

- *without cost*. Dirt roads are not built, they are laid in the necessary directions. No funds are required for the further exploitation of dirt roads. However, nobody has yet calculated the economic effect of their exploitation, even in comparison with those "patches" of paved and gravel roads operating in rural and forestry landscapes;

- *environmental friendliness*. There is no doubt that comparing the ecological state of highways on the one hand with dirt roads on the other hand is incorrect. The role of cars in the modern formation and operation of dirt roads is constantly increasing, but the main value for their development has cartage, transport which does not need fuel at all;

- *duration of operation*. At first glance, the dirt roads are non-durable. They sometimes "are carried" from one place to another, especially on slopes and water-divided areas. Dirt roads often change their directions, that's why an attitude to them as to temporary roads exists. However, even abandoned dirt roads have left their marks in the landscapes for centuries. It is important to note here that traces of ancient roads are clearly visible on aerial photographs, these dirt roads are likely to connect Olbia with the outside world. Now they are not on the surface, of course. These roads diverged from two knots (gates) and gradually disappeared away from the city;

- *aesthetics*. Not often there is a desire to walk barefoot on paved or gravel roads. The same walk on a dirt road will bring a real pleasure. At the same time, in the background of beautiful landscapes, almost in absolute silence, it is so catching to enjoy a lark singing, aromas of field grasses and crops around. Apparently, it is necessary to consider both the psychological and therapeutic importance of dirt roads.

The above mentioned features allocate dirt roads as peculiar landscape complexes in the structure of roadways. This fact should be taken into account in the processes of further research and the elaboration of the existing schemes for the classification of road landscapes (Denysyk G.I., 1998). In the modern sufficiently justified scheme of classification of road landscapes, dirt roads are singled out in a separate type of zonal-azonal subclass of highway roads landscapes (Alekseev Y.V., 1987). Their further classification involves the deployment of soil roads as for their typical localities and types in accordance with the soil-vegetation cover. Characteristics of road landscapes in general as well as by the type of terrain are partially indicated, though dirt roads have not been considered yet.

Field studies of the landscape complexes of "dirt roads" reveal all their diversity which is referred to the corresponding type of terrain as well as to the types of anthropogenic landscapes. Particularly distinguished are dirt roads in rural, agricultural and forestry landscapes. They are also in the structure of urban, town, industrial, recreational and other types of anthropogenic landscapes.

Rural dirt roads are always well-groomed, they are more often aligned and sprinkled with various building materials, gravel, for instance, which gradually changes their soil cover and completely destroys the vegetation cover typical for dirt roads. Particular attention should be given to rural roads on a sloping type of terrain, especially the ones which were laid in easily soluble and erosive surface such as forests, loess loams, various kinds of clay and sand, sometimes even limestones, chalks, etc. On the

slopes dirt roads concentrate in their tracks atmospheric precipitations and contribute to the development of derivative forms of relief: mounds and ravines. In the process of further aligning of these erosional forms the road itself gradually deepens. So-called micro-canyons are formed up to a depth of 3-5 m. on the slopes of the roads.

Field roads. All dirt roads in the structure of agricultural landscapes are known under such a name. In comparison with rural roads, the operation of field roads is not constant because they are intensively used only during the process of an active field work - in spring and autumn. Their network is denser among the field (hence the name) landscapes. Width is mostly unlimited, although it rarely exceeds 3 - 4 m. In the place, where bumps are formed and occasional weather precipitates are collected, the road is gradually bogged down and this area is "shifted away". Two, sometimes three, gauges are formed, and the width of such a ground road increases by 2-3 times (up to 10-12 m).

Field roads do not differ much from the adjacent agricultural landscapes when taking into account the illumination, wind regime, and the amount of precipitation. Only soil and vegetation cover substantially distinguish them from other types of landscape. The soils are not only densified, but also their structure changes, when they are affected by sheet and splash erosion. Furthermore, the soil cover in the Polissia area is completely destroyed, sandy sediments of these roads will also undergo their further rapid destruction. All this leads to the deepening of roads, especially into the dunes, up to 1-2 m. The vegetation cover of field roads is represented mainly by couch grass (*Elytrigia repens*), common plantain (*Plantago major*), sweet plantain (*Plantago medium*), dandelion (*Taraxacum officinale*). At the roadsides of field roads prevail grassland and kinds of weeds, typical of adjoining fields and pastures.

Forest roads. Dirt roads are not rare in forests. They often outline the whole forest quarters, they are laid out for the export of wood, between villages and farms adjacent to the forest, and even sometimes by local residents for the passage to a forest lake or a river. Unlike rural and field roads, dirt forest roads are shaded, "airing" here is insignificant and they are damper. Potholes are more common on the forest roads, mostly moistened or marshy, which significantly impedes even the passage of carriages. Changing the direction of forest roads or their «transferring» is always problematic. Abandoned forest roads overgrown with typical forest species and shrubs for 3-5 years.

Taking into account the available results of field researches of dirt roads in Podillia region, as landscape complexes, we propose their classification, where all the dirt roads are conditionally considered as a family of tracts (Fig. 1). There may be other classifications of dirt roads as landscape complexes, in particular, due to the duration of functioning, belonging to a certain class of anthropogenic landscapes, genesis, and others.

Dirt roads will continue to have a significant impact on people's economic activity. Their detailed research has long been predicted. The first attempts to explore dirt roads have already shown that these roads are not the ordinary landscape complexes, as it seemed to be at first glance, but original road landscapes that require no less attention than any other anthropogenic landscapes. They are of a particular importance for the functioning of residential, agricultural and forestry anthropogenic landscapes. In the nearest future, the study of dirt roads, the development of their typological schemes and classification as well as the possibilities of improving their rational use are of great necessity. At the same time, one should not forget about practical and humanistic significance of the dirt roads.

Paths as a kind of landscape complexes. Each type of terrain is characterized by unique paths that are formed here. However, very often within the same type of

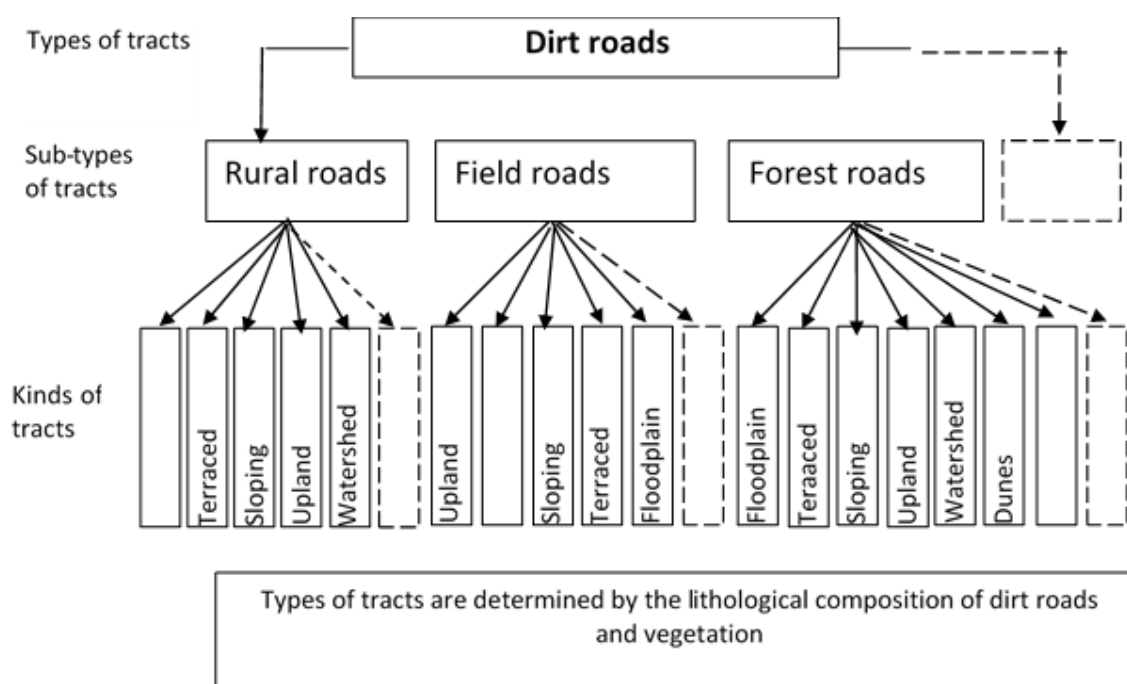


Fig. 1. Classification of the tracts of dirt roads in Podillia region

terrain the paths significantly differ among themselves, due to their confinement to the corresponding tracts (Fig. 2).

Floodplain paths. There are lots of paths within the flood-type locality. This is due not only to their active economic development, but also to the complexity of the road construction for diverse purposes. Paths in the floodplains, for the most part, stretch along the rivers and are confined to the channel shaft, rocky or slightly moistened surfaces. Their width is up to 0.5 m, the branches are small, the projective vegetation cover contains from 40 to 90%. Flood paths are often moistened, and wherever they cross moistened meadows or partial surface lowering, they are swampy. In the sandy areas of the floodplain of the Southern Bug and its inflow, the paths are deepened (up to 15-20 cm) to the surface and their vegetation does not exceed 42%. Flood paths often adjoin river banks, formed by fishermen, they are sometimes called places for one- and two-days' rest, tourist stays. The number and density of paths increase in areas of floodplains adjoining recreation camps or other recreational complexes located within the terraces or on the slopes of river valleys. The active use of fertile floodplain for the cultivation of agricultural and garden crops, as well as housing, leads to the gradual rearrangement of individual paths in typical dirt roads or pillaged flood roads.

Terraced paths. Due to the structure and condition, terraced paths are completely different from floodplains. Mostly they are dirt, even, up to 1 m wide, are often surrounded by gardens, cultivated fields, forest arrays. Their number and complexity of configuration grow in the outskirts of villages and towns. Thus, in the suburb of Turbiv (Vinnitsa region) the length of the paths is 2.7 times larger than the roads' length, though, their area is almost identical. Within the terraces, the separation of paths into those, that are constantly used, and temporary ones, is followed more clearly. Permanent paths, especially in branching areas, are often similar to those of dirt roads: their width is up to 2.0-2.5 m, the projective vegetation coverage does not exceed 40%, they are clearly distinguished in the structure of the terraced landscape. Temporary

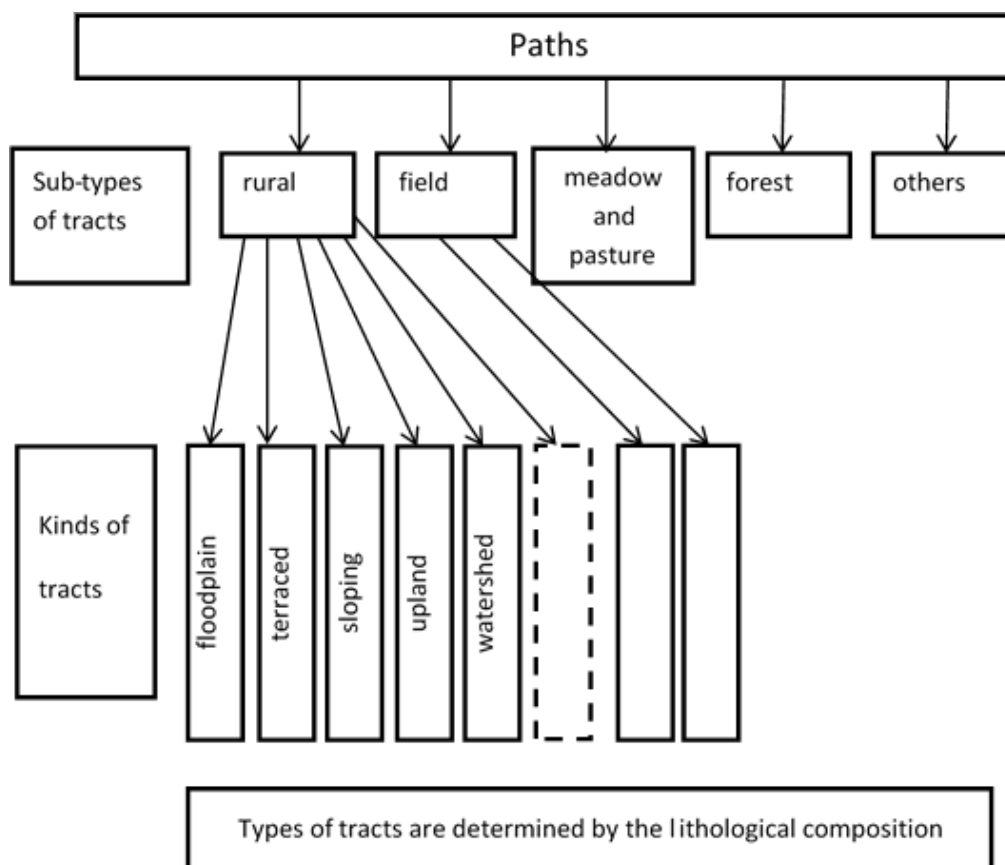


Fig. 2. Classification of the tracts of paths in Podillia region

paths are sunk mostly by plantain, couch grass, white clover. They are often "lost" among the meadow-grazing landscapes or in the outskirts of the forest massifs. Both permanent and temporary paths are sometimes used as the boundaries of field lands, gardens and gardens of the floating terraces.

Sloping paths. Sloping paths are significantly different from those previously described - floodplain and terraced paths, namely speaking:

- they are mostly confined to the steep ($35-45^\circ$) slopes, where they often range from 1-2 to ten, they extend in parallel and then merge to form a microstrip surface, or are laid on a slope at an angle of $30-40^\circ$, preferably even, sometimes in a zigzag pattern;
- the surface of the sloping paths is represented by indigenous rock of the areas, where they are formed, therefore, their projective vegetation coverage does not exceed 20-25%;
- the formation of sloping paths involves not only people but also domestic animals, this, in turn, often leads to uncontrolled development of such paths;
- sloping trails sometimes form micro-cells of the development of undesirable processes on the slopes: landslides, ravines, karst, etc.;
- technogenic elements are often present in the structure of the slopes: retaining walls, pillars, bridges, excavations of indigenous species, etc. Sometimes sloping paths reveal peculiar minor terraces up to 1-1,2 m wide.

Upland paths and watershed paths are less common and are often similar to the overflow-terraces. This is, for the most part, temporary paths on the edge of the field or between the forest array and the field, up to 0.6 m wide, partially sunken. However, they

can sometimes cause the development of erosion processes including gullies on plain fields.

Tovtry and hilly-ridged paths are similar to each other. The first ones are formed within the Podilsky and Murafsky Tovtres, while the other ones are located in the northwestern outskirts of the Ternopil region – Podilskyi ridge. Tovtry as well as hilly-ridged paths have common features with the slopes. In particular, they are united by the presence of indigenous breeds at the base of the trail, weak stiffness, in addition, these paths cause the development of adverse processes on the slopes of the valleys, hills and ridges.

The diversity and characteristic features of the paths are determined not only by their reference to the corresponding types of terrain, but also by the spatial location within a given class of anthropogenic landscapes, duration of functioning, origin, etc. In the modern network of road landscapes of any region, peculiar landscapes of dirt roads and paths have got an essential meaning and need to be thoroughly explored by various specialists, especially landscape researchers. This, in turn, will lead to better understanding of dirt roads` essence and significant meaning in everyday life of people, taking measures for their optimization, rational use and protection.

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