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# “Journal of Economics and Social Sciences”



## Clone: different interpretations of the term

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### Abstract

Nowadays the term “clone” is an interesting phenomenon for its study by different spheres of science – medicine, biology, and even psychology (because of clone’s moral components). The paper is devoted to the development of the terms “clone” and “cloning” and special features of their usage in science and society from the beginning of their appearance up to now. The article presents different interpretations of the term “clone”, different scientific points of view on this phenomenon, and various opinions of foreign authors and research workers in medicine, botany and genetics. The article may be useful to a wide audience and to people, who are interested in cloning.

*Keywords:* Clone, genetics, botany, cloning, asexual reproduction.

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### 1. Introduction

It is rare for scientific terms to be accepted by the public, but in a case of cloning it is so. Nowadays we have an opportunity to follow the development of this term, its history, interpretation and usage in science. It is worth to note, that the concept of cloning has undergone some changes from scientists and media to make it acceptable for society and to increase its influence.

History of the term began in the 20<sup>th</sup> century when a biologist, H. Webber, tried to find a special scientific term to denote plants, which were reproduced vegetatively - by buds, grafts, cuttings, suckers, runners, slips, bulbs, tubers, etc. He noted, that such plants “are not individuals in the ordinary sense, but are simply transplanted parts of the same individual, and in heredity and in all biological and physiological senses such plants are the same individual” [6].

H. Webber marked that he was searching the term, which could be used and understood by society. It should be short, easily pronounced and different from any other words to make it understandable for every speaker [4].

Webber suggested the word “clon” (from the Greek ‘κλων’) - a twig or slip, which is broken off for propagation. The term “clon” should be used for apples, peaches, strawberries, etc., which are not propagated from seeds, to distinguish them from plants like wheat and corn, which are grown from seed [4]. Later C. Pollard improved the orthography of the word and he added the final “e” (as it was accustomed in the English language) – clone [5].

### 2. Interpretations of the term

There were changes of interpretation of the term “clone” during its development. Thus, Crane and Lawrence defined it as “the collective name of all the plants asexually reproduced by division, grafting, etc., from one (seedling) individual” [1]. These authors noted that the method of reproduction took its place in horticulture and was the only one, which included all important aspects.

C. Darlington defined the term “clone” as “a group of organisms descended by mitosis from a common ancestor” [2]. While this definition would include animals, the examples were confined to plants bearing an extra chromosome (trisomics) or which are heterozygous for chromosomal changes. Many of such plants were sterile and in a case of their seeding, they fail to breed the truth [4].

The above-mentioned definitions show that the term “clone” was originally a collective noun, indicating a group where the members were descended by vegetative reproduction from a common ancestor. Later “clone” started to mean a separate element of such group and getting of such elements was called “cloning”.

Sometime later studies in cloning moved further from plant and bacteria cloning to multicellular and animal cloning. At the end of the 20<sup>th</sup> century scientists started to talk about human cloning. This term was actively used by media, art, and literature and it was taken into common vocabulary without its original meaning.

Nowadays “clone” means as a cell population, which was taken from the parental cell by an asexual reproduction [3].

### 3. Conclusion

Being a popular and common notion nowadays, the term “clone” has undergone changes in its structure and interpretation. Originating from the Greek, this word came into the English language and borrowed its features, and scientific interest to the study of heredity allowed this term to come out from the botanic vocabulary to the general level of using.

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