

Network of scientific productions
Gábor Tuszányi February 11, 2008.

Motto: a net work means the following: if you have to work you ought to do it as assiduously like the stars walk on the sky.

Scientometry is something necessarily wrong. Hence doing it is hopeless. Nevertheless there are bad things which are stimulating through the belief that the best what you can do when you are the one who is doing them. This text would like to operate like a snowball: any reader may turn herself or himself to a coauthor with the complete agreement of the old ones.

Scientific productions resemble patents or standards, they are well patterned units of knowledge which may be some insight in history, art, perhaps a mere collection of facts, an observation, a method answering old questions, a molecule, a curing procedure, a new way in surgery, a definition or a theorem. It is necessary that the production can be reproduced thus it needs to be public. But publication in itself is not equivalent with scientific production.

Relations of scientific productions are mostly directed: a new production is based on many old ones. If the new production is presented in a prudent way then all the used preliminary products are gathered and described. The relations are different: sometime the new product is an extension or a modification. The new result may corroborate and old conjecture. Perhaps the new idea refutes many old hypotheses. There are hierarchical sequences in relations. Valuation of links may alter in course of time and of course the links themselves are scientific productions.

It is not yet clear, how the network will emerge. There are two possibilities: static and dynamic. A static system may be born in education which is happening continuously but without clear-cut formulation of the procedure. Before the actual work starts it is necessary to develop a computer system nursing the network. Expectedly there will be many versions and a method unifying them is needed. Life solves all the problems created by it but without firm agreements the process could become chaotic. Dynamically the network may arise when new results start to present themselves building their network. Perhaps on nothing, but after a while the system may be organised. Once born the system may be the host of science breaking luckily the border between real wisdom and its mechanical measurement.

Theoretically there exists only one network of scientific productions but practically we ought to cut in into small and perhaps hierarchical pieces. Relations of the parts is not clear yet.

Measure of a scientific production is the sum of the value of its descendants. The value of a new result is by definition one token. If there are different paths between an old and a new production, the multiplicity should be reduced to one. Perhaps we can develop some mirroring: the value of old results may be inherited by new ones.

Reference

Standard Evaluation Protocol 2003-2009 For Public Research Organisations, Vereniging van Universiteiten, Nederlandse Organisatie voor Wetenschappelijk Onderzoek, Koninklijke Nederlandse Akademie van Wetenschappen