Code and complexity: Can the code stand Lessig's challenges?

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The natural rules of cyberspace – the causes or the norms?

Almost a hundred years ago, there was a fertile exchange of ideas between legal scholars in Vienna and Brno. One of the topics that were discussed the most, was the place of teleology in the law and namely in Hume's system of existential elements[1]). Hume's thesis that represented the basic methodological system for the Pure Legal Theory is based on the division of 'is' and 'ought'. The legal postulate of pureness formulated by *Kelsen*[2]) was consequently based on the test dividing empirical ('is') and normative ('ought') facts and accepting only the latter as relevant to the law.

As to teleology, it was questionable whether teleology (or the 'intent') belongs to the 'is' or to the 'ought' and consequently to the law. In other words, the question over which *Kelsen* debated with *Englis,* was whether we might speak in the law about purposive statements and purposive interpretation. *Kelsen* argued that the intent is just a reversed causality and thus, it belongs to the non-legal area of 'is.' Opposing to that, *Englis* defended the opinion that the 'intent' is purely of normative nature and so we have to operate with it as with a legal category.[3])

The result of the above debate between *Kelsen* and *Englis* was in fact a draw and they both retained their positions. In any case, the point of the question about the purpose and purposive interpretation was in the presence/absence of the 'will' or 'willingness' – in the 'intent'. If the 'intent' would be just as a reversed causality, we would be logically able to argue that there is no 'will' needed in its construction, and that the intent is just an empirical category. On the other hand, if we see the 'intent' as the product of 'willingness,' we can deduct its normative (legal) nature.

It might now seem questionable, what the debate over the place of 'intent' in the law has to do with the cyberspace and its code. The reason we focus on this issue is to show that in case there is a 'will' or 'willingness' present as the core of some rules, we can speak about norms and treat them as such.

In the case of natural laws, it is always disputable whether we can call them norms or causal rules. If we accept the theory that the natural laws were created upon the will of the lawmaker, we can obviously treat them as norms. On the other hand, if we do not believe in any natural lawmaker, we see the natural laws just as causal tautological rules[4]).

Similarly to the ordinary world, there are the 'natural laws' of cyberspace. In this case, we do not have to debate over the question whether there is a lawmaker or not. Obviously, we can guess its existence and existence of its will from the fact that the 'natural laws of cyberspace' can

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be determined not just by causal actions, but also from the mere statements of the lawmaker.[5]) That is why we can literarily speak about the natural norms of cyberspace.

It must be pointed out that the natural norms of cyberspace function a bit differently from other types of norms (i.e. legal, social or ethical). Yet we can speak about the will of the lawmaker as the reason for their creation, it is almost impossible to speak about the will of their recipients with regards to obeying them. In the case of legal or social norms, we are almost free to decide about our behaviours.[6]) In the case of the natural laws of cyberspace, there is no possibility of choice as the norms do not function upon sanctions but upon causality.[7]) In fact, there is only one group of individuals technically able to choose between following some of the natural laws of cyberspace and not obeying them – the hackers.[8]) In order to name that specific regulatory feature of the natural norms of cyberspace (causality instead of sanctioned duty), we can use the term 'definition norms,' where the adjective 'definition' indicates the fact that the respective norms do not just influence the environment but define it.

Despite the differences between the natural norms of cyberspace and other types of norms, there are many similar features, out of which we can extract the following:

- The definition norms can be faulty and neglected
- The definition norms can be created accidentally
- The definition norms can be breached
- The definition norms are created upon one-sided human will or consensus
- The definition norms are of different origins and form different layers.

Coding the values

In the second volume on the Code, *Lawrence Lessig* keeps his challenging position towards the code and its architects, saying:

> *"We can build, or architect, or code cyberspace to protect values that we believe are fundamental. Or we can build, or architect, or code cyberspace to allow those values to disappear. There is no middle ground. There is no choice that does not include some kind of building. Code is never found; it is only ever made, and only ever made by us."*

The above statement looks more challenging to the code architect than to the code itself and its users (recipients). In the following remarks, we will try to argue that it would not be wise to understand this challenge as such.

The fundamental values of mankind, such as equality, fairness or freedom, have their names but no precise definitions. Whenever we say that something is 'fair', it explains our subjective attitude but it is impossible to give the precise reasoning and explanation of the meaning of such a statement. It is then even more difficult to 'encode' the fairness into the words of law.

There are a lot of academic and even mathematical[9]) proofs that, whenever we try to handle some complex facts (like the core values) by the Kantian pure reason[10]), the result is never a complete success. Whenever we try to formulate postulates of fairness, freedom or even equality,

they finally do not make sense or, in the better case, they come out just as empty formulas.[11])

Our inability to handle by our pure (analytical) reason the core values and principles of mankind does not imply, of course, that the values do not exist[12]). It just shows that they do not exist upon the pure reason or the reasonable will of the rulemaker or the interpreter. They rather ideally exist by themselves as complex[13]) facts that were allowed to be partly revealed by the lawmaker or the interpreter.[14])

Unlike social or ethical norms, the law can not rely just on metaphors. That is why we never spot in any legal text words like 'love' (the metaphor with the broadest meaning ever) and it is also the reason why words like 'fairness' appear in the black-letter legal documents as sporadically as possible (compared to words with much more precise meanings). Nevertheless, from time to time, even the law has to use the broad metaphors anyway.[15])

Technically, the cyberspace and its definition norms are the product of the pure reason. Whatever shapes the cyberspace, i.e. whatever was coded, works on a causal and logical basis. On the level of the code, we can predict and model the consequences of any action. There is consequently no place for metaphors in the code,[16]) and thus, no metaphysics can be coded.

(Rather optimistic) Concluding Remarks

If we sum up the above-indicated basic features of relations between the definition norms of cyberspace and the basic values, we can formulate the following conclusions:

1) It is impossible to proactively protect or even erect the basic values on the level of the code. It is, of course, possible to try to eliminate the particular activities that are consensually identified as threatening the respective values. However, we have to assume that any definition of direct protective measures on the level of the code is incomplete and faulty – then, it is mostly just a matter of luck, whether the faults that appear in the process of coding will cause protective or destructive effects on the values.[17])

2) There is no danger that the basic values will disappear *per se* (naturally). They exist independently of the acts of the lawmaker or the code architect. Whenever there is done nothing and the information flow is left without constraints, these values tend to be discovered and *ad hoc* applied by the stakeholders.[18]) Even in the situations when some coded constraints are put to their development, they show remarkable ability to counter them. Consequently, there is no need to fear that the values will disappear if they are not positively coded.

3) The only endangerment of the basic values is coming from the acts of the lawmaker, the code architect or the social powers (economic, technical, religious, aesthetic, sexual, etc). While the above-named are not forming any hierarchy[19]), the only possible way of protecting the basic values in cyberspace is to work on particular measures securing the balance of their interests. When the tensions are minimized and no constraints are put to the exchange of information, the values spontaneously rise and develop.

It is normal to ask at the end of a postmodernist story, whether the story ended happily. In this case, we can say that the statements made above are pretty optimistic with regard to the natural features of the core values. Unlike *Lawrence Lessig*, we see the core values as relatively strong and naturally existing complex facts that do not desire any specific attention to appear and persist in cyberspace. On the other hand, we are quite pessimistic towards the abilities of the code architects to identify the values and to proactively protect (encode) them.

1) *Hume* divided the existencial elements on 'is' and 'ought' and formulated reasons for which there is no relation between the two categories. See *Hume, D.* (2003) A Treatise of Human Nature, Project Gutenberg, available on-line at http://www.gutenberg.org/dirs/etext03/trthn10.txt.
2) See *Kelsen, H.* (2002) Pure Theory of Law, The Lawbook Exchange, New Jersey, p. 1.
3) See *Englis, K.* (2003) Kritika normativní theorie, in Brnenska skola pravni teorie, Praha, Karolinum, p. 203.
4) I.e. those, whose existence we guess by causal actions (like we guess the gravity by the stone falling to the ground). The causal action is then both determining the rule and reasoned by it. That is why we can name such rules tautological.
5) There have also been issued the user's manuals for the natural world – however, reading and understanding the Holy Bible or the Holy Qur'an is far more difficult, challenging and contemplative than reading the user's manual to Google Docs.
6) If we decide not to comply with the normative requirement, there is automatically implied our consent with the consequent sanction – see See *Kelsen, H.* (2002) Pure Theory of Law, The Lawbook Exchange, New Jersey, p. 108.
7) At this point, the parallel with the natural laws of the ordinary world is almost perfect.
8) There is obviously a parallel to hackers in the natural world in the case of wizards or witches – it is to be noted that any attempted incompliance with the Laws of the God were and in some cultures still are severely punished.
9) On of the most famous theories of that kind is the theorem of imperfection formulated by Moravian mathematician *Kurt Gödel.* The influence of his theory of imperfection was enormous not only on the field of mathematics or logics, but in almost all scientific areas – see *Weaver, W.* (1960) The Imperfections of Science, in Proceedings of the American Philosophical Society, Vol. 104(5), p. 419.
10) See *Kant, I.* (2003) The Critique of Pure Reason, translated by *Meiklejohn, J. M. D.,* Project Gutenberg, available on-line at http://www.gutenberg.org/dirs/etext03/cprrn10.txt.
11) Coming back to *Kelsen,* his sophisticated logical analysis of postulates of fairness proved either their senselessness or vagueness – see *Kelsen, H.* (1927-1928) Die Idee des Naturrechtes, Zeitschrift für öffentliches Recht, 7, p. 221.
12) Our inability to describe the reasons for which the bumblebee flies also does not mean that the bumblebee would fly by its own mistake.
13) Here, the term 'complex' is used as the effect of complexity. It appears whenever there is an assembly of multiple simple elements and causes that the system has features whose quality goes far beyond the sum of qualities of its elements. For fairly understandable (even to lawyers) explanation of the effect, see for example *Lewin, R.* (1999) Complexity – Life at the Edge of Chaos, The University of Chicago Press, Chicago, p. 44.
14) The ability of humans to reveal the meaning of fairness *ad hoc* is constantly argued by *Ronald Dworkin*. Even after a lot of criticism, *Dworkin* still stands on his 'one right answer' theory – see for example his replicas on critics in his latest work *Dworkin, R.* Justice in Robes, New York, Belknap Press.

15) Besides very sporadically used words like 'fairness' or 'truth,' we relatively often work with metaphoric categories like 'good manners,' 'social endangerment,' 'equality' and others.
16) All the communication traffic is mediated by the computers and we still have not invented any method how to transform the metaphors into binary instructions.
17) There is an old Czech proverb saying that the road to hell is covered by good intentions.
18) Even in the strict authoritative regimes, the values of freedom and plurality appear as soon as the society gets an opportunity to communicate. There is no need then to form sophisticated discussion groups about democracy or freedom of speech. If people are left to frequently (and even distantly) communicate about weather or soap operas, the values like freedom, equality and others will be implied on the grounds of the effect of complexity.
19) Formerly, there was assumed a strict hierarchy of social institutions with the state (or the nation) standing on its top. Nowadays, we rather speak about multicentric environment with multiple unsorted powers. See for example *Greenleaf, G.* (1998) An Endnote on Regulating Cyberspace: Architecture vs. Law? University of New South Wales Law Review, 21(2), p. 603.