numerous different self-imposed tasks), nor are all their acts institutionalized (they will interact as well according to free and deliberate, though bounded, choice). And nothing else would be compatible with human freedom.
2. The type fixation that can be found in society will be a highly dispersed patchwork: the designs of related components of a society may originate from completely different sources and may be realized independently rather than in a coordinated way.
3. These pieces of design are subject to continuous change, which again may be uncoordinated: in newly designed socio-technical systems, which form components of the society, machines may be used for functions they were never designed for. In the case of type-fixing positions, the individuals who exert these positions may modify the type fixation and by this mediate a deviation of the society from its previous design.
4. Societies are, to a high degree, self-organizing instead of assembled according to a plan and may be dependent largely on contingent side-conditions. Therefore, the actual role of a type-fixed technical artifact will often deviate from what its function would be according to any design of a system it belongs to.

5 Conclusion

I have introduced a non-intentional concept of design that is defined in terms of type fixation. A designed entity is a complex entity that is type-fixed component-wise. This allows for a unified view on the design of technical artifacts, biological organisms, socio-technical systems, and, in part, societies (as well as of ecosystems, which I did not take into consideration here). Technical artifacts may be used as type-fixed components of designed socio-technical systems. Therefore, the design of a technical artifact, being its component-wise type fixation, contributes to the design of these systems. But technical artifacts are also components of social systems on the even higher level of societies. They may belong directly to a society as their immediate components, or indirectly as components of socio-technical systems. Therefore, artifact design influences the design – the type fixation of the components – of a society. However, societies are to a large extent self-organizing systems. In a self-organizing system, the design of the components determines the system only to a minor degree. It rather opens up possible outcomes of the self-organization process. Therefore, the type-fixed components of a society may contribute to its design, but the design of a society will only be a piecemeal and incomplete design.[13]

[13] That society is based on a piecemeal design, of course, does not mean that "piecemeal social engineering", which is restrained to ad hoc-reactions on emerging problems that are conceived as being more or less isolated (Popper, 1971), is the desirable method of social reform.

With respect to the concept of function, the incompleteness of any design of a society is confirmed. The concept of function was linked to the concept of design: the function of a component of a designed entity is the role – not necessarily intended – that the component assumes in the system according to the design. *Intended* functions are goals of designers that are not necessarily met by actual functions of components. So again, the design of artifacts merely co-designs society. Their actual functions need not coincide with intended functions, and many roles that a technical artifact may assume are not determined by the design of any social system, and therefore cannot be classified as functions. The design of societies is always fragmentary, may change piecemeal, and interferes with non-intended processes of self-organization. It seems to be impossible to design all the relationships between the components of a system. Failure of SSD in many cases is therefore not only – and perhaps even not primarily – a consequence of the complexity of the social system, but of the fragmentary character of the design of any society, and in addition of the neglect of the material components of social systems in the attempt to design functions directly, without focusing on their bearers.[14]

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