# Law as an Autopoietic System

### Gunther Teubner

Translated by Anne Bankowska and Ruth Adler Edited by Zenon Bankowski

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## 'And God Laughed . . .'

I

The Talmud tells us how once, during a heated halachic discussion when no agreement could be reached, Rabbi Eliezer, whose detailed, elegantly justified legal opinion was not shared by the majority, claimed that if he were right, then the tree outside would move a yard or two to prove it. When the tree did in fact move, the other rabbis remained unimpressed. Thereupon he announced that the river would begin to flow backwards and the walls of the synagogue to bend. But the rabbis were not impressed by these wonders either. Finally he said that heaven itself would prove him right. When a heavenly voice did indeed confirm Eliezer's point of view, the rabbis shook their heads and said: 'We are not going to pay any heed to a voice from heaven, for you yourself wrote in the Torah on Mount Sinai: "One must bend to the will of the majority."' And God laughed, and said: 'My sons have defeated me, my sons have defeated me.'

The best way of getting to the spirit of a new theory – in this case autopoiesis in law – is by telling an old story. Joseph Weiler told me this one while we were discussing whether the concepts of self-reference and autopoiesis could inform our understanding of law.

We can read this as a story about self-reference in law. As with all good stories, several interpretations are possible. Starting with the most obvious reading, the emphasis is on the absence of an Archimedean point of reference outside the law. Law, as Rabbi Eliezer had to learn the hard way, is not determined by external authorities, or by the authority of the Scriptures, secular power, the

<sup>&</sup>lt;sup>1</sup> Talmud, Baba Mezia 59b.

law of nature, or divine revelation. Rather, law arises from the arbitrary nature of its own positivity.

It is the self-referential nature of law, the application of legal operations to the results of legal operations which gives the law validity. Legal validity cannot be brought in from outside; it can only be produced within the law. We can agree with Luhmann and say: 'There is no law outside the law, therefore no input or output of law in relation to the social environment of the system.' Even the flat of the legislative or divine will has first to be approved by the rabbis: it is their discourse which ultimately decides how it is to be received in the law. According to our first reading of the story, then, positive law is self-produced law — not only in the sense that it is made by men, but in the sense of law produced by law.

Another way of interpreting this story would be to emphasize the fact that law is essentially self-referential and unpredictable. The ideal of legal certainty, essentially based on the predictability of law in its application to actual cases, founders on the law's self-referentiality. So does the notion that predictability can be obtained by causal analyses of the sociology of law.

In this context von Förster would interpret Eliezer's legal dispute in the following way: God laughed because the rabbis had anticipated the impotence of the Laplacian world spirit.<sup>3</sup> For the latter only has power over what von Förster describes as 'trivial' machines. These link particular inputs with particular outputs in a fixed, ordered way. 'Trivial' machines are synthetically determined, analytically determinable, independent of the past, and predictable. Law, on the other hand, if it is indeed autonomous rabbinical law, would have to be understood as a self-producing and self-reproducing process. As the operations of the law are dependent on its inner states, it would have to be defined as a 'non-trivial' machine. Law is certainly synthetically determined, but it is not analytically determinable: it is dependent on the past, but cannot be predicted. According to this way of looking at it, the indeterminate nature of law is inextricably bound up with its autonomy. In fact, according to Heil, it is precisely this indeterminacy which is the main feature of the system's autonomy. 4 Hejl defines autonomy as inputindependence of living systems. Inputs which appear identical to the outside observer do not necessarily have the same internal effect.

<sup>&</sup>lt;sup>2</sup> Luhmann, 1986c, pp. 20 ff.

<sup>&</sup>lt;sup>3</sup> Cf. von Förster, 1984b, 1985.

<sup>&</sup>lt;sup>4</sup> Hejl, 1984.

These are two rather obvious ways of interpreting self-reference in law. They only say something about the fact that law cannot be determined from the outside, that it is impenetrable and uncontrollable. We can get at a far deeper issue by interpreting the story in a third way which reveals its essential circularity. Rabbi Eliezer makes good use of the entire hierarchy of legal norms. He goes through the stages one after another – the legal discussion of the rabbis, the text of the Talmud, natural law, secular power, and divine revelation – only to perform a strange loop at the end and land right back where he started from. 'Tangled hierarchies' is the term used by Hofstadter to describe the phenomenon whereby the highest level in a hierarchy 'loops into' the lowest one.<sup>5</sup> In the last analysis, the final arbiter of the validity of divine law is the triviality of procedural norms ('One must bend to the will of the majority').

Hofstadter himself<sup>6</sup> makes clear that even the hierarchy of legal sources is not immune to the circular 'looping together' of hierarchies: 'The irony is that once you hit your head against the ceiling like this, where you are prevented from jumping out of the system to a yet higher authority, the only recourse is to forces which seem less well defined by rules, but which are the only source of higher-level rules anyway: the lower-level rules.'<sup>7</sup>

What the story of the dissenting Rabbi Eliezer is getting at is the ineluctable self-referentiality of law. Admittedly, it is presented to us in a highly elaborate form in the story. The hierarchy of legal sources has only one small flaw; the highest level draws on the lowest. If one pitches the highest source of law high enough, then the world of law can live with this circularity, even if God does find the whole thing rather amusing.

Things change somewhat when we look at them in yet another way and consider the original self-reference which underlies the 'tangled hierarchy' of law in the Talmud. As soon as the simple distinction between legal and illegal is applied in any context whatsoever, self-reference poses a threat to the law. If the distinction between legal and illegal is applied not merely ad hoc, but with claims to universality, then at some stage it will be applied to

<sup>&</sup>lt;sup>5</sup> D. Hofstadter, 1979, pp. 684 ff.

<sup>&</sup>lt;sup>6</sup> Ibid., pp. 692 f.; D. Hofstadter, 1985, p. 71.

<sup>&</sup>lt;sup>7</sup> D. Hofstadter, 1979, pp. 692 f.

<sup>&</sup>lt;sup>8</sup> Escher, 1961; see Locher, 1971.

itself. Indeed, its very claim to universality forces it to become self-referential. It is at this point that 'paradoxes of self-reference' emerge.<sup>9</sup> As the desperate attempts of the dissenting Rabbi Eliezer demonstrate, the hierarchy of legal sources is merely an inadequate attempt to avoid this original self-reference by piling layer upon layer of meta-levels, the top level of which, however, is identical with the bottom.

There are those, like Spencer Brown, who want to put a stop to this type of 'self-indication' because the distinction cancels itself out in it. 10 Others, like Francesco Varela, see 'self-indication' as an opportunity for a new logical calculus. 11 These are assessments of an operation which can always be carried out, at least in theory: namely, the application of a distinction to itself. The danger is that this type of self-application ends up blocking any decision. If the positive value of a distinction is applied to itself, then one ends up with a tautology, albeit a fairly harmless one: 'It is legal to apply the distinction legal/illegal.' If we turn this the other way round, it becomes much more of a problem: the statement 'It is illegal to apply the distinction legal/illegal' leads to an insoluble paradox: legal-illegal-legal-illegal-illegal...

As soon as one becomes aware of the problem, one sees self-references, paradoxes, and antinomies everywhere in the law. <sup>12</sup> As Hofstadter says, 'Reflexivity dilemmas...crop up with astonishing regularity in the down-to-earth discipline of law. <sup>13</sup> The great paradoxical issues of the repeal of the law through the 'right of resistance' and raison d'état are well known, as are the paradoxical creation of law through the force majeure of revolution <sup>14</sup> ('Each act of illegitimacy carries within it the possibility of its own legitimacy' <sup>15</sup>), the paradox of the hierarchy of norms which we noted above, and the Münchhausen trilemma of the foundation of norms: infinite regression, circularity, or voluntary rupture. <sup>16</sup>

We can come up with many other more concrete examples of legal self-reference which lead to paradoxes: 'Who watches the

<sup>&</sup>lt;sup>9</sup> Bateson, 1972; Wormell, 1958; Quine, 1976; von Förster, 1984a; Krippendorff, 1984; Suber, 1990; Barwise and Etchemendy, 1987, pp. 7ff.; Hutter, 1989a.

<sup>&</sup>lt;sup>10</sup> Spencer-Brown, 1972, p. 135.

<sup>&</sup>lt;sup>11</sup> Varela, 1975, p. 5.

<sup>&</sup>lt;sup>12</sup> Fletcher, 1985, pp. 1268 ff.; Suber, 1990.

D. R. Hofstadter, 1985, p. 71.

<sup>&</sup>lt;sup>14</sup> Luhmann, 1984a, pp. 12 ff.; 1984c; Benjamin, 1977, pp. 179 ff.

<sup>&</sup>lt;sup>15</sup> Resta, 1984, p. 10; 1985.

Popper, 1972, pp. 93 ff.; Albert, 1985, ch. 1; Alexy, 1989, p. 179.

watchman' as the problem of constitutional jurisdiction; 'the paradox of self-amendment' in constitutional law; tu quoque, or 'equity must come with clean hands'; renvoi in conflict of laws; 'ignorance is no excuse'; the prohibition of bigamy; 'prospective overruling'; circularity in defining 'the interests of an organization'; frustration in contract as 'the relevance of the irrelevant'; or the 'fiction theory' of the legal person, according to which the State as a legal person must, like Münchhausen, pull itself up by its own bootstraps by inventing itself.<sup>17</sup>

#### Ш

Self-reference, paradox, indeterminacy everywhere! Yet the real problem arises when we ask ourselves the next question: how do we deal with paradoxes induced by self-reference? Like Lüderssen, we can make it easy for ourselves and dismiss the 'messing around with self-referentiality, which is passed off as unadorned circularity' as 'a dubious piece of intellectual fancifulness... which has long since plagued intellectual history and which has rightly been rejected as sterile'. Otherwise we are left with three ways of dealing with the 'paradoxes of self-reference' that appear in law, each of which is the subject of intense debate. 20

One of the ways of dealing with self-reference which is currently favoured by the Critical Legal Studies movement is radical legal critique.<sup>21</sup> Their subtle analyses of legal doctrine are in fact an exercise in deconstruction, and a strange one at that. Legal doctrine's claim to consistency and its practical-moral hopes are reduced to the point where all kinds of contradictions, antinomies, and paradoxes are shown up within the doctrine itself.<sup>22</sup>

On the constitutional law paradoxes, see Cappelletti, 1989; Ross, 1969; Suber, 1990. On tu quoque, Teubner, 1975. On renvoi, Kegel, 1987, pp. 240 ff. On paradoxes in penal law, Fletcher, 1985, P. 1268. On corporate interest, Teubner, 1985b, p. 485. On frustration, Deggau, 1987b. On the paradox of the legal person, H. J. Wolff, 1933, pp. 63 ff.; Flume, 1983, p. 13; Teubner, 1986c, p. 351; 1988a, pp. 417 ff.; 1988b.

Krippendorff, 1984, pp. 51 ff.

Lüderssen, 1986, pp. 343, 349.
 Wormell, 1958; Quine, 1976.

Cf. esp. Kairys, 1982b; Stanford Law Review, 1984; Boyle, 1985; Kelman, 1987; Frankenberg, 1989; Joerges and Trubek, 1989.
 For a good overview, see Gordon, 1984, p. 101.

It all started with the uncovering of contradictions between formality and materiality, between individualism and altruism in contract law; with policy-oriented law in the welfare state's inherent instability and tendency to fragment; and with the paradox that for every rule there is counter-rule.<sup>23</sup> Trubek reduced this kind of legal critique to the formula 'indeterminacy, antiformality, contradiction and marginality'.<sup>24</sup> The approach rapidly caught on.<sup>25</sup> Now there is hardly an area of law left that has not been deconstructed by the Critical Legal Studies movement.<sup>26</sup>

There are numerous variants of this critique. The indeterminacy of law is ascribed to a variety of quite different causes: individual case decisions, legal institutions, the logic of legal argumentation, legal doctrine, social interests or policies.<sup>27</sup> There is always an element of determinacy, however, in the position adopted by Critical Legal scholars. This varies according to the area they choose to focus on: social context, institutional environment, political ideologies, or 'social hegemony'.<sup>28</sup>

But just how radical a critique of law is this? It appears to me that the rediscovery of indeterminacy, the ideological demystification of legal doctrine, all the 'debunking' and 'trashing', only gets to the superstructural phenomena of legal self-descriptions but never to the heart of the fundamental legal paradox. Is not Sophocles' critique of law much more radical when he has Antigone express her opposition to Creon's law prohibiting her from burying her brother?

CREON: And yet wert bold enough to break the law?
ANTIGONE: Yea, for these laws were not ordained of Zeus,
And she who sits enthroned with gods below,
Justice, enacted not these human laws.
Nor did I deem that thou, a mortal man,
Could'st by a breath annul and override
The immutable unwritten laws of Heaven.
They were not born to-day nor yesterday;
They die not; and none knoweth whence they sprang.
I was not like, who feared no mortal's frown,
To disobey these laws and so provoke
The wrath of Heaven.

(Sophocles, Antigone, p. 349)

<sup>&</sup>lt;sup>23</sup> Duncan Kennedy, 1975-6, pp. 1685, 1712 ff.; Unger, 1976, pp. 192 ff.; 1983, pp. 576 ff.

<sup>&</sup>lt;sup>24</sup> Trubek, 1986, p. 70.

<sup>&</sup>lt;sup>25</sup> Cf. Singer, 1984, p. 1; Boyle, 1985, p. 685; Peller, 1985, p. 1151.

For private law, see Feinmann, 1984, p. 678; Dalton, 1985, p. 997; for public law, Kairys, 1982a, p. 140; Tushnet, 1983, p. 781; Frug, 1984, p. 1276.
 For a critical view, see David Kennedy, 1985; Frankenberg, 1989.

<sup>&</sup>lt;sup>28</sup> Cf. Duncan Kennedy, 1984; Singer, 1984.

One should not see this purely as a conflict between divine and secular law, but rather as an insoluble paradox. Antigone maintains that Creon's laying-down of what is legal or illegal is itself illegal. It is at this point that the radical nature of Sophocles' critique of the law becomes clear. It is not, as contemporary critique would have it, individual legal norms, principles, or doctrines that lead to antinomies and paradoxes. Rather, it is the fact that the law itself is based on a fundamental paradox which even alternative visions of a communal law cannot escape.

Contrary to all the hopes of the Enlightenment, the uncovering of contradictions and paradoxes cannot lead to a 'deconstruction' of the law, but at most to a 'reconstruction' of its latent foundations, to a reconstruction of the relationships between self-reference, paradox, indeterminacy, and the evolution of the law. One cannot argue that when lawyers are made aware of the latent contradictions and paradoxes in law, these are thereby irrevocably destroyed. This would be to underestimate the difference between the reflective awareness of lawyers as individuals and of law as a social process. It would also downplay the operative closure of legal discourse vis-àvis theoretical discourses, including that of legal theory. Wiethölter regards it as

the dominating phenomenon of the last 10 to 15 years that the work of lawyers as socially oriented and exercised practice has remained almost untouched by all the more fundamental challenges facing our legal system, jurisprudence and legal doctrine.<sup>29</sup>

Heller supplies the post-structuralist explanation: 'Law is essentially a cognitive and professional, rather than a normative, discipline, referring to theory only in the liminal cases where the content of the settled practice comes into crisis.' This makes him rightly sceptical as to the enlightening effects of a legal critical 'delegitimative analysis'.

Joerges concludes that 'the problem of indeterminacy proves to be a paradox. One knows that one does not know why the law functions; but one also knows that one can act precisely because it functions.'31

There are other legal theorists who favour a more civilized way of dealing with the profoundly self-referential nature of the law. They define the problem of self-reference in law as a problem of the

<sup>&</sup>lt;sup>29</sup> Wiethölter, 1986b, p. 53.

Heller, 1985, p. 185.
 Joerges, 1987b, p. 168.

'paradoxes in legal thought'.<sup>32</sup> By defining the problem in this way, they have made the relation between self-reference and paradox appear to be a 'fallacy' of human thought and can then set about reestablishing the consistency of legal thought. The entire exercise becomes merely a matter of finding an effective method of getting rid of paradoxes: 'The main way of solving the problem is to elaborate distinctions.'<sup>33</sup> This is obviously a reference to the famous theory of types. There are, however, other ways of getting round the paradox of self-reference.<sup>34</sup> In any case, one should not be rattled by unresolved paradoxes and antimonies: they pose 'a challenge to legal theory that we cannot ignore. If we are committed to the consistency of our legal principles, we shall someday have to devise a construct or a theory that will resolve this antimony.'<sup>35</sup>

All respect for 'consistency as an overriding legal value'!<sup>36</sup> But who is to make sure that these mental gymnasts don't get caught up in a 'tangled hierarchy' as they leap from levels to meta-levels? Who is to see that they don't perform a 'strange loop' on the highwire, leap right out of the system, and land right back where they started from? Perhaps Fletcher is taking the easy way out when, having got bogged down with paradoxes as intellectual games, he understands paradoxes as purely intellectual mistakes.

We certainly cannot help the dissenting rabbi of our story by offering him a new distinction which would be a way of getting over an alleged fallacy in his thinking about law. Rabbi Eliezer ends up in exile anyway. His problem is not merely 'paradoxes in legal thought' but 'paradoxes in legal practice'. He has to discover the hard way that it is the reality of the law itself, not merely thinking about it, that is paradoxical. And this brings us to the third way of dealing with legal paradoxes induced by self-reference: namely, to shift the paradox from the world of thinking about law into the social reality of law. This third way out breaks a legal taboo: the taboo of circularity. Legal doctrine, legal theory, and sociology of law are at one in seeing circular arguments as logically inadmissible. In all three disciplines circular arguments are banned as petitio principii.<sup>37</sup> This taboo also characterizes the exertions of

<sup>32</sup> Fletcher, 1985, pp. 1263; see also H. Hart, 1983; Ophuels, 1968; Ross, 1969.

Fletcher, 1985, pp. 1263, 1279.
 Hart, 1983; Ross, 1969; for a critical view, see Suber, 1990.

<sup>35</sup> Fletcher, 1985, p. 1284.

Ibid., p. 1265.
 See e.g. Klug, 1966, pp. 153 ff.; Alexy, 1989, p. 179.

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our mental gymnasts, whose acrobatics are premissed on the prohibition of circularity. This is also the tacit premiss of the critical deconstructionists, whose critique would be meaningless if the prohibition on circularity were lifted.

The theory of autopoiesis does not lift the taboo on circular inferences only to declare them logically acceptable. That would only produce meaningless tautologies or block the process of thought altogether. What autopoiesis does is to find a way around the taboo. Circularity is seen no longer as an intellectual problem but as a problem of legal practice. The social reality of law resides in an abundance of circular relations. The components of the legal system — actions, norms, processes, identity, legal reality — are constituted in a circular fashion, and are cyclically bound up with each other in a variety of ways.<sup>38</sup> Self-references, paradoxes, and indeterminacy are real problems of social life, not merely errors in the intellectual reconstruction of this reality.

This new way of dealing with self-reference is more than ambitious. Circularity, which was hitherto looked upon as a fundamentally unacceptable mode of thought, is now regarded as a productive and heuristically valuable practice. It is a way of revolutionizing not only legal theory, but our whole way of thinking about society. As Luhmann put it, 'The concept of self-reference is generalized to a description of existence as such which at the same time establishes the conditions of observability.' As Zolo has demonstrated, it is based on a generalization of the following 'circular' phenomena:

- linguistic self-reference of cognitive processes (W. V. O. Quine, O. Neurath),
- 2 theories of order through fluctuation and dissipative structures in the physics of irreversible processes (I. Prigogine),
- 3 logical circularity in mathematically axiomatized structures (K. Gödel) and general paradoxes and contradictions in recurrence and in logical-linguistic self-inclusion (B. Russell, K. Grelling, A. Tarski),
- 4 reflexivity of the mechanisms of homeostatic or self-catalysing self-regulation in molecular biology or neurophysiology (L. von Bertalanffy, M. Eigen, H. von Förster),
- 5 recursive phenomena (feedback, re-entry) in cybernetics and in

<sup>38</sup> Teubner, 1988b.

<sup>&</sup>lt;sup>39</sup> Luhmann, 1987d, p. 45.

- the cybernetics of cybernetics (second-order cybernetics) (W. B. Ashby, H. von Förster),
- 6 processes of spontaneous morphogenesis and the self-organisation of social groups (F. A. von Hayek),
- 7 the traditional concept of mental awareness in man and in anthropoid primates (H. Maturana, G. Pask, N. Luhmann).<sup>40</sup>

The dynamic character of this way of dealing with self-reference and the potential significance of its contribution stem from its central thesis that reality has a circular structure, independent of its cognition. This has been rather rashly criticized by some as a naïve mixture of idealistic and realistic cognitive premisses. But why should a rigidly constructivist world-view be unable to distinguish between the environmental constructs of systems and their real environments, if it is clear that both are merely constructs of the observer?

#### IV

It is this insistence on 'real paradoxes', to coin a phrase which brings to mind Karl Marx's 'real contradictions', that makes theories of self-reference and autopoiesis potentially so promising. For the research strategy is to reveal blanks on the map of social (and legal) phenomena by identifying circular relations in law and society and investigating their internal dynamics and external interactions. There have, of course, been many attempts to do this already. Legal hermeneutics, which studies the intricacies of the hermeneutic circle, has made the greatest progress in this area. In legal theory, it has been mainly Hart and Ross who have been concerned with self-referential norms. On the other hand, legal methodology and argumentation theory have relatively little to say on the circularity of the relation between legal norm and purpose in teleological explanation. And until now the sociology of law has thought of

<sup>&</sup>lt;sup>40</sup> Zolo, 1992.

<sup>41</sup> Luhmann, 1992b, ch. 12.

<sup>42</sup> Cf. e.g. Zolo, 1992.

<sup>43</sup> See e.g. Esser, 1970.

Hart, 1983; Ross, 1969, p. 1.
See e.g. Alexy, 1989, pp. 235 ff.

circularity only in terms of simple feedback relations between law and society.<sup>46</sup>

From the point of view of autopoiesis, however, these phenomena are merely further illustrations of the essentially circular nature of law.<sup>47</sup> The legal system, like other autopoietic systems, is seen as nothing but an 'endless dance of internal correlations in a closed network of interacting elements, the structure of which is continually being modified... by numerous interwoven domains and meta-domains of structural coupling'.<sup>48</sup>

The reality of law itself is circularly structured. That would be the final way of interpreting the story 'And God laughed'. Not only is the rabbis' reasoning about law self-referentially constituted, but so is the subject-matter itself. The most important consequence of this shift from thought to practice is that the paradox induced by self-reference need no longer present an obstacle. The rabbis are indefatigable in their attempts to refine and develop Talmudic law, irrespective of the paradoxes which emerge. They thus follow the second alternative in Krippendorff's characterization of a paradoxical situation:

Unless one is able to escape a paradoxical situation which is what Whitehead and Russell achieved with the theory of logical types, paradoxes paralyze an observer and may lead either to a collapse of the construction of his or her world, or to a growth in complexity in his or her representation of this world. It is the latter case which could be characterized as morphogenesis.<sup>49</sup>

We can now analyse how legal practice copes with the blocks imposed by the paradoxes of self-reference and how it stabilizes itself despite extreme fluctuations. The practice of law transforms total indeterminacy into relative determinacy. The theory of autopoiesis is ultimately concerned with the relation between the following elements: self-reference, paradox, indeterminacy, and stability through eigenvalues. In applying the distinction between legal and illegal, the legal system founds itself upon a self-referential circle. This inevitably leads to tautology and paradox, and thus to the fundamental indeterminacy of the law. But this indeterminacy should not necessarily prove an obstacle; nor should we give way to

e.g. Weiss, 1971; Eckhoff, 1978, pp. 41 ff.

<sup>47</sup> Febbraio, 1988.

<sup>48</sup> Maturana, 1982, p. 28.

<sup>49</sup> Krippendorff, 1984, pp. 51 ff.

it. For there are practical solutions to the problem of indeterminacy induced by paradox. The key lies in 'deparadoxizing paradoxes', in the 'creative application of paradoxes, in the transformation of the infinite into a finite burden of information, in the translation of indeterminable complexity into determinable complexity'.<sup>50</sup>

One may, like von Förster, rely on the fact that self-reference ultimately leads to stable solutions.<sup>51</sup> When an operation is constantly reapplied to itself, stable eigenvalues are formed. A classic example of an eigenvalue is 'This sentence has x letters'. The number thirty-one is the eigenvalue of that sentence. To put it more generally, through recursive 'computation of computation', a system learns the modes of operation which hold good in an environment which is inaccessible to the system. Or we may, like Boayentura de Sousa Santos, look for inspiration to poets, who 'overcome the anxiety of influence by misreading (or distorting) poetic reality' and interpret law as a continuous 'misreading of reality'. 52 Or, like Luhmann, we may try to get round the problem altogether and interpret the resulting pattern as a structure of order, as a morphogenetic development of the system. 53 In this way we can look for social solutions to self-reference by concealing paradox, neutralizing it, by thinking of it as a mere contradiction, and attempting to 'deparadoxize' it in a variety of other ways. The establishment of the legal system on the basis of the legal code (legal/illegal) which renders the paradox of self-reference a harmless, albeit forbidden contradiction would effectively eliminate paradoxes from the law. The paradoxes of self-reference would not be resolved, however; they would merely be held in check. The hierarchy of legal sources, the apex of which is best left in the penumbra of natural or divine law, is a good symbol of this latency. Yet, no sooner has it been pushed into the background than self-reference creeps in through the back door: 'And God laughed.'

<sup>50</sup> Luhmann, 1987a, p. 320; 1988b.

von Förster, 1981, p. 274; 1985.

<sup>52</sup> Santos, 1987, p. 281.

<sup>53</sup> Luhmann, 1984a, pp. 4ff.; 1986c, pp. 16ff.; 1988b, 1989.

## The New Self-Referentiality

I

How does autopoiesis change the concept of law? In particular, what does it have to offer as opposed to the notion of law as a system which is open to the environment, as it has been described in cybernetic and functionalist theories?<sup>1</sup>

Systems theory owed much of its success and dynamic quality to the fact that it viewed systems as open to the environment and adaptive.<sup>2</sup> By ceasing to regard systems as closed, windowless monads, it was possible to focus on the way they interacted with their respective environments, and in particular on how they were dependent upon them. It was the environment which determined the operating conditions of systems. Systems had to adapt to survive – a view shared by both neo-Darwinist evolutionary theory and the contingency theory of sociology of organization.<sup>3</sup>

Given that systems were seen as being both open to the environment and adaptive, it seemed obvious that they could be directly influenced, regulated, and even determined, by their environment. For their very flexibility and adaptability depended upon their being able to respond to changes in the environment, either by making internal modifications, or, in the case of ultra-stable systems, by altering their mode of operation. As far as the regulation of social systems is concerned – and this would include social regulation through law – this had two main implications: first, it was a question of making the systems to be regulated as flexible as possible; secondly, it involved enabling the regulating actors (administration,

On law as an environmentally open system, see e.g. Weiss, 1971; Rottleuthner, 1973, pp. 142 ff.; Friedman, 1975, pp. 5 ff.; Parsons, 1981, pp. 60 ff.; and on Parsons, Damm, 1976.

<sup>&</sup>lt;sup>2</sup> Buckley, 1967; Buckley (ed.), 1968, pp. 490 ff.

<sup>&</sup>lt;sup>3</sup> Lawrence and Lorsch, 1967a,b, 1969.

management, State) to intervene directly by defining environmental constraints.

This way of thinking of systems as environmentally open and adaptive was a considerable step forward. The environment undoubtedly has an effect on systems, be they organisms or organizations. It is also obvious that politics and administration, through the medium of the law, exert some influence in practically all areas of society. This has lead to widespread criticism of the 'juridification' not only of all societal subsystems, but of the life-world itself.<sup>4</sup>

The distinction between system and environment was a key feature of the open system, and was replicated within it in the form of self-differentiation. It focused attention on concepts like the relationship between input and output, the ability of a system to adapt to its environment, the re-establishment of equilibrium by control and regulation, or the 'rational' organization of a system towards a particular end. Purpose rationality, control, management, adaptation to the environment, and the maintenance of the system's equilibrium also inform political strategies of reform. These were aimed at effecting specific changes through the law in various social domains. Being based on an understanding of law as a means of direct social intervention, this could be compared to an analogous understanding of other forms of intervention: power, money, knowledge, and technology.

While it is undoubtedly true that intervention of this type had some effect, it has become increasingly clear that its impact on the social systems concerned has been somewhat unexpected. Sometimes it has been too slight, at other times too great. Sometimes this type of intervention has been effective only for a short period: sometimes it has been counterproductive, often counter-intuitive, and frequently has somehow got 'swallowed up' by the system. People have been quick to attribute blame. It was either too much or too little policy, or too much or too little law. Sometimes the implementation policy was considered inadequate, the reform too zealously implemented, the wrong instruments used, and the procedure no longer adequate. The main culprits, however, were traditional reform policy and traditional methods of direct, purpose-rational intervention in general.

It is perhaps not entirely coincidental that at this very moment the

Voigt (ed.), 1980, 1983a,b, 1986a,b; Habermas, 1985; Teubner, 1987e.
 See Teubner, 1987d.

<sup>&</sup>lt;sup>6</sup> Görlitz and Voigt, 1985, pp. 27 ff.