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**AGAINST WATER –  
A REPLY TO CHRISTOPHER M. KELTY**

One thing about which fish know absolutely nothing is water, since they have no anti-environment which would enable them to perceive the element they live in.<sup>1</sup>

Having Marshall McLuhan's famous quote in mind, it may seem odd that the first issue of a new web journal for digital cultures includes an article that argues "against networks". Not only is its author obviously aware of the element that surrounds him, it seems that this one is daring to achieve the impossible by encouraging resistance against his own medium of communication. The network, however, does not seem to care much that one of its inhabitants actually attempts to create an anti-environment within its nodes and edges: Without hesitation, my browser fetched the data that is now being displayed to me in the readable form of Christopher Kelty's thought-provoking text. Kelty's critique of networks has become a part of the very thing that he criticized in the first place. Is this transmission of a potentially subversive message, one might ask, simply an example of the general indifference of a network towards its content? Or is it a proof of the omnipotence of the *one* network of networks that will ultimately assimilate everything and everyone? Even if Kelty defiantly sends a bunch of IP packets after his first ones upholding the position that he is "still against networks", it seems that resistance is futile.

Of course, the original argument that Kelty made is much more complex than simply 'being against networks'. His text is a skillful deconstruction of Actor-Network Theory's (ANT) network-concept and an ambitious endeavor to find a more adequate analytical tool to describe and understand concrete contemporary networks like the Internet. It seems, however, that Kelty was caught in a dilemma when

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1 Marshall McLuhan, *War and Peace in the Global Village*, New York NY, Bantam, 1968, p. 175.

he wrote his text in 2004: By introducing his brown box-concept he substituted ANT's network for yet another network. Hartmut Böhme has described this inescapability of the network episteme in the following way:

“The reflexive emancipation from the entanglement with the net in turn generates the net, that we are enmeshed in... To wherever we might flee, the nets will already be there; since escaping means expanding them even further.”<sup>2</sup>

Even *if* fish became aware of the existence of water and started to reflect on it, this would only mean one thing: more water!<sup>3</sup>

That being said, I think that it is still worth having a closer look at Kelty's proposal to continue using the network-metaphor in order “to understand the Internet itself” – if even against Latour's own will. Kelty argues that by the end of the 20<sup>th</sup> century, ANT's analytical tools had lost most of their “rhetorical force”. Since its heyday in the 1980s, ANT's representatives had been using an organic version of the network-metaphor that stressed the dynamics of *relation* and *translation*. But in the context of the Internet's growing success they had to confront a new dominant understanding of networks that, in contrast, highlighted the notion of *accessibility* and *immutability*. While for Latour this was reason enough to abolish the term network altogether, it seems that Kelty encourages us to stick to ANT's original network concept and use its diverging meaning productively. He wants to describe how the Internet became *one* particular kind of network. Using the example of the TCP/IP protocol, Kelty reminds us that its genealogy cannot be explained as a top-down implementation of standards or a choice decision between clear-cut alternatives. To “understand the Internet itself” means to acknowledge the multiplicity and flexibility of “political, economic and metro logical factors” that compete, complement or reinforce each other and thus contribute to the emergence of its structure and order of values.

By reasoning this way, however, Kelty fails to take account of the fact that the biological and the technological network-model share a long common history of scientific examination and technological

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2 “Die reflexive Emanzipation von der Verstrickung ins Netz erzeugt im selben Akt das Netz, in dem wir uns verstricken [...] Die Netze sind immer schon da, wohin wir vor ihnen fliehen mögen; denn indem wir vor ihnen fliehen, bauen wir sie weiter aus.” Hartmut Böhme, “Netzwerke. Zur Theorie und Geschichte einer Konstruktion”, in Böhme et al. (eds.), *Netzwerke: eine Kulturtechnik der Moderne*, Köln, Böhlau, 2004, pp. 17–36, p. 17.

3 Note that two years before McLuhan, Michel Foucault made the same point using a similar metaphor: “Marxism exists in nineteenth-century thought like a fish in the water: that is, it is unable to breath anywhere else.” Michel Foucault, *The Order of Things. An Archeology of Human Sciences*, New York NY, Random House, 1970, p. 274.

implementation. The modern fascination with networks, which can be traced way back way to the 18<sup>th</sup> century,<sup>4</sup> has always meant to engage with both man-made *and* ‘natural’ forms of organization and communication.<sup>5</sup> And in contrast to Kelty’s argument that “historically speaking, technical networks were never about translation, transduction or transformation”, there are quite a few examples of technical networks that were built to model processes of transformation, dissipation and self-organization. The second wave of cybernetics of the 1960s and 1970s for example, went to great effort to explore biological computers, nontrivial machines and so called random networks.<sup>6</sup> In fact, while it is true that ANT was built on the conceptual foundations of the first wave of cybernetics, there are many indications that its network-concept was also greatly influenced by the offspring of this era of Biocybernetics: Agent-based models, object-oriented programming and artificial neural networks formed ANT’s media archeological context.<sup>7</sup> By adopting the new networked computer terminology and a certain style of thinking from this emerging epistemology of computer simulation its protagonists were well equipped to describe classical scientific practices in a locally confined setting *as* networks of translation and transformation. Attempts to apply ANT’s terminology to non-scientific fields however have never been that fruitful in comparison.<sup>8</sup> And in the face of highly collaborative and increasingly opaque digital research practices in contemporary science,<sup>9</sup> ANT’s weapons seem to become increasingly ineffective even in regards to their original area of investigation.

But what if we replace the term network with something else? Can we gain a hint of an epistemological lead by introducing new terms or concepts from other theories or methods? Looking back at his original argument, Kelty in 2014 suggests that the introduction of his brown box-concept could be understood as an early attempt to combine ANT

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4 Cp. Sebastian Gießmann, *Die Verbundenheit der Dinge. Eine Kulturgeschichte der Netze und Netzwerke*, Berlin, kadmos, 2014, p. 17.

5 Cp. Laura Otis, *Networking: Communicating with Bodies and Machines in the Nineteenth Century*, Ann Arbor MI, The University of Michigan Press, 2001.

6 Through the writings of the French biophysicist Henri Atlan both Michel Serres and Bruno Latour were influenced by the theories of Heinz von Foerster, an Austrian cybernetician and protagonist of this Second Wave of Cybernetics. Cp. Bruce Clarke, “Heinz von Foerster’s Demons. The Emergence of Second Order-Systems Theory”, in Clarke and Mark Hansen (eds.), *Emergence and Embodiment. New Essays on Second-Order Systems Theory*, Durham, London 2009, pp. 34–61.

7 This argument is made by Claus Pias in: Martina Leeker, *Technik und Wissensgeschichte der ANT im Kontext entfesselter technischer Objekte*.

8 Cp. Florian Hoof, “Ist jetzt alles ‘Netzwerk’? Mediale ‘Schwellen- und Grenzobjekte’”, in Hoof et al. (eds.), *Jenseits des Labors. Transformationen von Wissen zwischen Entstehungs- und Anwendungskontext*, Bielefeld, transcript, 2011, pp. 45–62.

9 Cp. Michael Nielsen, *Reinventing Discovery: The New Era of Networked Science*, Princeton NJ, Princeton University Press, 2011.

with Media Theory. It is indeed remarkable that when introducing Akteur-Medien-Theorie (AMT), of all the four things Latour had questioned in his famous recall of ANT,<sup>10</sup> advocates of AMT chose to replace the middle letter.<sup>11</sup> Is this denomination of the new hybrid a consequence of – or maybe even a solution to – the epistemological dilemma mentioned above? Is AMT better suited to describe actual networks rather than ANT because it avoids the problematic overlapping of *network-as-object* and *network-as-theory*? Well, it seems that we should not grow too optimistic in this respect. Instead of being a true hybrid that merges the best features from both theoretical schools, on closer inspection, AMT turns out to be an intellectually inspiring advancement of ANT that nevertheless continues to rely on the network-metaphor.<sup>12</sup> In fact the M in AMT is slightly misleading, since their representatives usually prefer the term mediator in order to highlight the assumption that what we commonly call media are in fact the product of (but cannot be reduced to) social, semiotic and natural-technological forms of agency and delegation.<sup>13</sup> Thus, AMT might well function as a corrective by which we can test established media theories or histories for dissymmetries and hidden *a priori*s. However, I doubt that AMT will bring us any closer to an understanding of our ontological and epistemological entanglement in contemporary networks, since analyzing mediators requires the framing and localizing of a constellation in which both agency and arrangement (“Agentschaft und ihrer Anordnung”) must be taken into consideration.<sup>14</sup> The conceptualization of mediators still presupposes a way of thinking in networks and that means: more water!

To sum up, I think that we should continue to use network concepts and theories where appropriate, but we should not forget that they are *one* analytical tool among many. They can be helpful to test,

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10 „[T]here are four things that do not work with actor-network theory... the word actor, the word network, the word theory and the hyphen.“ Bruno Latour, “On Recalling ANT“, in: John Law and John Hassard (eds.), *Actor Network Theory and after*, Oxford UK and Malden MA, pp. 15–25, p. 15.

11 Cp. Tristan Thielmann and Erhard Schüttpelz (eds.), *Akteur-Medien-Theorie*, Bielefeld, Transcript, 2013.

12 Andrea Seier has argued that while recent attempts of combining ANT and Media Studies do succeed in discussing the use of ANT’s tools to research media beyond established analytical barriers (“Entgrenzung des Medialen“), they fail to integrate established models and concepts from media studies (such as Foucault’s concept of dispositif). Cp. Andrea Seier, “Kollektive, Agenturen, Unmengen: Medienwissenschaftliche Anschlüsse and die Actor-Network-Theory“, in: *Zeitschrift für Medienwissenschaft*, 1(1), 2009, pp. 132–135.

13 “Ein gewisser Teil der ANT ist immer schon Medientheorie gewesen, und insbesondere der ‘Mittler’ oder ‘médiateur’ markiert den historischen und systematischen Hebelpunkt einer ‘Akteur-Medien-Theorie.’“ Schüttpelz, “Elemente einer Akteur-Medien-Theorie“, in: Thielmann and Schüttpelz, pp. 9–67, p. 18.

14 Cp. Schüttpelz, p. 13.

extend or improve other existing theories and methods. And they still provide an especially powerful model to describe local constellations of power and classical forms of knowledge production. But I do not think that we can expect them to bring us closer to being able “to understand the Internet itself”, as Keltly suggests. Neither will they help us to grasp the epistemic complexities of computer simulations or retrace contemporary forms of massively collaborative science.<sup>15</sup> Analyzing networks with network models, that draw their formal language and modes of representation from the very same media-archeological context, remains an epistemological problem. They might enable us to make sense out of “the border of time that surrounds our presence” but they will not bring us closer to an understanding of our presence itself.<sup>16</sup> Thus, it seems that what McLuhan stated for the emerging electronic age sixty years ago still holds true for us today:

“Nobody yet knows the language inherent in the new technological culture; we are all deaf-blind mutes in terms of the new situation. Our most impressive words and thoughts betray us by referring to the previously existent, not the present.”<sup>17</sup>

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15 See for example the *Polymath Project* described in Timothy Gowers and Michael Nielsen, “Massively Collaborative Mathematics”, in: *Science*, 461, 2009, pp. 879–881.

16 Foucault, *The Archeology of Knowledge*, London, Tavistock, 1972, p. 130.

17 McLuhan, *Counterblast 1954*, Berlin, transmediale, 2011.