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The Global Administrative Law of Science

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“Le savant a une patrie, la science n’en a pas.”

*Louis Pasteur*¹

Introduction: Science as a Field of Research for International Law

Astonishment could not have been greater particularly outside the scientific world, when in two articles in the journal “Science” of 2004 and 2005, the South Korean veterinarian (!) researcher *Hwang Woo-Suk* reported to have succeeded in cloning human embryonic stem cells². Should a long race in biotechnology devouring massive resources have finally found a “winner”? Should there be a biotechnological solution to end such plagues heavily burdening mankind such as cancer and aids or such afflictions as Parkinson’s and Alzheimer’s disease, stroke, arthritis, diabetes, burns, and spinal cord damage³, should human organs be replaceable – but also: should this, above all, be a further step in man becoming the creator of himself? Astonishment turned into shocked disgust when in 2006 *Hwang Woo-Suk*’s “research” was revealed to be the result of fabricated experiments. The scientific publications had to be revoked, *Hwang Woo-Suk* lost his post as a university professor and had to face criminal proceedings, resulting in him being found guilty of embezzlement of enormous sums of money and sentenced to two years

¹ Louis Pasteur, *Inauguration de l’Institut Pasteur, Annales de l’Institut Pasteur*, 1888, pp. 29 *et seq.* – quoted from Robert Merton, *Social theory and social structure*, 1968, p. 608.

² Hwang Woo-Suk et al., “Evidence of a Pluripotent Human Embryonic Stem Cell Line Derived from a Cloned Blastocyst”, *Science* 303 (2004), pp. 1669-1674; Hwang Woo-Suk et al., “Patient-Specific Embryonic Stem Cells Derived from Human SCNT Blastocysts”, *Science* 308 (2005), pp. 1777-1783. Editorial retraction of these papers: *Science* 311 (2006), p. 335.

³ James A. Thomson et al., “Embryonic Stem Cell Lines Derived from Human Blastocysts”, *Science* 282 (1998), pp. 1145-1147 at pp. 1146 *et seq.*; Constance Holden and Gretchen Vogel, “Cell Biology: A Seismic Shift for Stem Cell Research”, *Science* 319 (2008), pp. 560-563 at pp. 560 *et seq.*

suspended imprisonment by the Seoul Central District Court in October 2009⁴.

We live in a world of science. Scientific progress, the knowledge-based society⁵, economic performance driven by innovations and ethical boundaries to research are only a few widespread keywords underlining this platitude. It goes without saying that the world of science is a borderless world – la science n'a pas de patrie. Therefore, the scandalous case of *Hwang Woo-Suk* remarkably illustrates the legal dimension of a borderless world of science⁶. As noted above, the perpetrator of fraudu-

⁴ Cf. Péter Kakuk, "The Legacy of the Hwang Case: Research Misconduct in Biosciences", *Science and Engineering Ethics* 15 (2009), pp. 545-562 at p. 546; David Cyranoski, "Woo Suk Hwang convicted, but not of fraud", *Nature* 461 (27 October 2009), p. 1181; *Zeit-Online* 26 October 2009 "Genetiker Hwang Woo Suk verurteilt".

⁵ The notion of the "knowledge society" was first used in the late 1960s in the works of Robert Lane, Peter Drucker and Daniel Bell: Robert Lane, "The decline of politics and ideology in a knowledgeable society", *American sociological review* 31 (1966), pp. 649-662; Peter Drucker, *The age of discontinuity: guidelines to our changing society*, 1969; Daniel Bell, *The coming of post-industrial society: A venture in social forecasting*, 1973) and taken up by Nico Stehr in the early 1990s: Nico Stehr, "Modern societies as knowledge societies", in: George Ritzer and Barry Smart (eds.), *Handbook of social theory*, 2001, pp. 494-508). For the later development cf. Deutscher Bundestag (ed.), *Schlussbericht der Enquete-Kommission Globalisierung der Weltwirtschaft – Herausforderungen und Antworten*, Drucksache 14/9200, 2002; Martin Heidenreich, "Die Debatte um die Wissensgesellschaft", in: Stefan Bösch and Ingo Schulz-Schaeffer (eds.), *Wissenschaft in der Wissensgesellschaft*, 2003, pp. 25-51; Nico Stehr, *Wissen und Wirtschaften. Die gesellschaftlichen Grundlagen der modernen Ökonomie*, 2001; Manuel Castells, *The Rise of the Network Society. The Information Age: Economic Society and Culture*, Vol. 1, 1996, Joachim Bischoff, *Mythen der New Economy. Zur politischen Ökonomie der Wissensgesellschaft*, 2001; Helga Nowotny/Peter Scott/Michael Gibbons, *Re-Thinking Science: Knowledge and the Public in an Age of Uncertainty*, 2001. Further Helmut Willke, *Dystopia*, 2002; Rolf Kreibich, *Die Wissenschaftsgesellschaft*, 2nd ed. 1986.

⁶ On the internationalisation of science in general see Wissenschaftsrat, *Empfehlungen zur deutschen Wissenschaftspolitik im Europäischen Forschungsraum*, 2010 (Drucksache 9866-10), at pp. 18 *et seq.* Cf. for an earlier assessment Vittorio Ancarani, "Globalizing the World – Science and Technology in International Relations", in: Sheila Jasanoff/Gerald E. Markle/James C. Petersen/Trevor Pinch (eds.), *Handbook of Science and Technology Studies*, 2005, pp. 652-670.

lent experiments had to face the consequences of his actions in a South-Korean court⁷. But what if the domestic authorities had refrained from dismissing and prosecuting him (after all, government appears to have been involved considerably, although of course not in fabrication and embezzlement, but in funding the “research”⁸) or had been unable to do so (e.g. if all this had taken place in a legally less developed State)? Should unlawful – and even criminal – activities affecting the entire scientific world not be legally reflected also at global level? Would it not be the logical consequence to have such situations governed by international legal standards – and if so, who should formulate and implement them? Moreover: What about the numerous ethical issues and their repercussions in the legal field? Suppose *Hwang Woo-Suk* would really have succeeded in cloning human embryonic stem cells. As is well known, whereas such activity may be legal (and considered to be ethically sound) in that particular Asian country, the legal and ethical situation in other jurisdictions and cultural contexts is an entirely different one. Additionally, during and around the great scandal, the same “scientist” was involved in other ethically doubtful activity, viz. the payment of women donating ova for scientific (?) purposes⁹. Are all these issues outside the scope of action of the international community – are they beyond the reach of international law?

They are not. A closer look reveals the existence of a plethora of international institutions, legal rules and principles, of global norms for the purpose of the international governance of science and of administrative mechanisms to ensure the sound management of science-related problems. We shall discover that neither ethical issues of research, nor the affection of other rights, values and interests by scientific activity, nor the issues related to research funding are ignored by international institutions, international legal norms and global administrative mechanisms. It is these institutions, legal norms and administrative mechanisms we

⁷ David Cyranoski (supra note 4); Park Si-soo, “Hwang Convicted of Embezzlement, Cleared of Fraud”, published online 26 October 2006, *The Korea Times*, available at http://www.koreatimes.co.kr/www/news/nation/2009/10/117_54275.html.

⁸ Péter Kakuk, pp. 553 *et seq.* and 561 (supra note 4).

⁹ Cf. Robert Steinbrook, “Egg Donation and Human Embryonic Stem-Cell Research”, *The New England Journal of Medicine* 354 (4), 26 January 2006, pp. 324-326; Péter Kakuk, p. 547 (supra note 4).

analysed¹⁰ in a research project funded by the German Research Foundation (Deutsche Forschungsgemeinschaft)¹¹. This book's purpose is to present the jurisprudential results of the project. Its socio-scientific outcomes have been published separately in German in Sebastian Steinecke's *Zur internationalen Governance der Wissenschaft: Die Regulierung der Wissenschaftsfreiheit zwischen Selbstregelung und hoheitlichem Zugriff – gleichzeitig ein Beitrag zum Wandel von Staatlichkeit*¹². Empirical results are collected in a free database available at http://www.rewi.uni-jena.de/Fakult_auml_t/Professoren+_amp_+Dozenten/Universit_auml_tsprofessoren/Prof_+Dr_+Matthias+Ruffert/Forschung/Forschungsprofil/Globalisierung+und+Global+Governance/Elemente+eines+transnationalen+Wissenschaftsrechts/Database.html.

The present study is composed of five parts. Firstly, we will give a precise account of the exact field of international legal regulation under scrutiny, which requires substantial effort (below A.). Secondly, we will seize the development of global administrative law and methodologically develop that there is a particular administrative legal field of science (below B.). Thirdly, we will identify freedom of science as the constitutional core of that legal field (below C.). Subsequently, we will comprehensively analyse actors and institutions (below D. and E.). Finally, elements of a global administrative law of science will be summed up and revisited (below F.).

¹⁰ Together with Katrin Rentzsch and supported by the student assistants mentioned above.

¹¹ *Elemente eines transnationalen Wissenschaftsrechts* (<http://gepris.dfg.de/gepris/OCTOPUS/?jsessionid=438B25FE656741D8B11447CB25A494A4?module=gepris&task=showDetail&context=projekt&cid=33485187&selectedSubTab=1>).

¹² München, Herbert Utz Verlag, 2011.

A. The Concept of Science

I. Preliminaries

Analysing the governance of science – whether at the domestic or global level – requires a concept of the term “science”¹. What appears to be easy at first sight – everyone has at least a vague idea of what science is – proves considerably more difficult once factual and legal connotations of the term are considered in depth. The intrinsic factual particularities of the term set aside temporarily, both main obstacles to its definition in the field of international law are obvious.

Firstly, the notion of science is not used in any particular legal instrument of general recognition. We are well aware that in such universal documents even terminology may be subject to intensive debate, doubtful efforts of definition or continuous uncertainty – considering examples such as “peace” in Article 39 UN Charter² or “self-determination” in human rights treaties such as Article 1 ICCPR³ only. Of course, the notion of science is used in international legal texts (see below E. III.), but there is no single document or even group of documents the quest for a definition can concentrate upon. Consequently, the task of defining the term is part of the effort to design the subject matter itself. There is no positivist approach or else given idea to the concept of international law of science or, more generally, to its legal governance.

Secondly, the term “science” has, without any doubt, different meanings in the various jurisdictions of the world. This is due not only to the quite obvious linguistic divergences, be it between the different languages (science, Wissenschaft, science, *sciencia*, *scienza*, наука, ... to name but a few of them) or even within one language (science, scholar-

¹ Cf. also Sebastian Steinecke, *Zur internationalen Governance der Wissenschaft*, 2010, manuscript pp. 78 *et seq.*

² Cf. only Jochen Abraham Frowein and Nico Krisch, in: Bruno Simma (ed.), *The Charter of the United Nations. A Commentary, Volume I*, 2nd ed., 2002, Article 39, para. 6.

³ Manfred Nowak, *U.N. Covenant on Civil and Political Rights. CCPR Commentary*, 2nd ed. 2005, Article 1, paras. 32 *et seq.*