LEGAL INFORMATICS AND OUR BASIC METHOD

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Abstract: *A method is a many-splendored thing. On the most general level, it no doubt brings the practitioners of a science together. Similarly, a method provides professions with a frame of reference – coordinates to steer by. True to form then, being lawyers, we are convinced that our method is a bond we share, and something that distinguishes us from other professions. In theory, this is in fact the case; in practice, we find a very different story. A great deal of legal literature – especially doctrinal literature – lacks expressly articulated methods or commitments to a particular school of thought. Yet, if we take a look at what we write, we find quite a few things that mark us out as lawyers. Indeed, as Alois Troller did, we can speak of the profession as having a basic method. It is the routine we follow that tells us what is important in legal life, in particular in legal literature and communicating research findings. This basic method inevitably changes over time.*

The contribution takes a close look at how Legal Informatics has changed – or is changing – the profession's basic method and confirmation bias.

Eine Methode ist eine facettenreiche Sache. Auf der allgemeinsten Ebene bringt sie die Praktiker einer Wissenschaft zusammen. Entsprechend bietet eine Methode den verschiedenen Professionen einen Bezugsrahmen, Koordinaten an denen sie sich ausrichten. Als Juristen sind wir überzeugt, dass unsere Methode uns verbindet und uns zugleich von anderen Professionen unterscheidbar macht. In der Theorie ist es wohl tatsächlich so; in der Praxis erleben wir etwas ganz anderes. Ein großer Teil des juristischen Schrifttums – besonders der dogmatischen Literatur – lässt den ausdrücklichen Hinweis auf die befolgte Methode oder das Bekenntnis zu einer bestimmten Denkrichtung vermissen. Allerdings, wenn wir in den Blick nehmen, was und wie wir schreiben, finden wir durchaus ein paar Dinge, die uns als Juristen kennzeichnen. Tatsächlich können wir mit Alois Troller von der Profession sprechen, die durch eine grundlegende Methode definiert ist. Es sind unsere Routinen, die uns sagen, was im Recht wichtig ist, insbesondere in der Rechtsliteratur und in der Kommunikation von Untersuchungsergebnissen. Die grundlegende Methode ändert sich unvermeidlich im Laufe der Zeit.

Der Beitrag betrachtet näher, wie sich die Rechtsinformatik verändert hast – oder noch ändert – die grundlegende Methode der Profession und ihr „confirmation bias".

1. Professions and methods

We often see the term "method" in the legal literature as a bare expression without describing it in any detail. At its simplest, the subject is dispatched with a comment from the author that he or she is following the method of jurisprudence. Yet mere mention does not tell the reader enough about the method involved. In a field such as law, the idea that there is a single method is in fact patently absurd. A reference to jurisprudence of course distinguishes a work from legal theory, legal history and the sociology of law, or even from today's increasingly important field of legal linguistics. But even within jurisprudence there is a wide range of research interests and methods.

Sound scholarship should be more readily visible in its description of the methods applied or in the text of the research itself. Identifying the method cannot be left up to the readers to guess – however educated their guesses may be – or to be constrained by the tenets of their particular school of thought.[1] Indeed, law, as Antonio Anselmo Martino has insightfully noted, is – or at least should be – one of the world's most exact sciences.[2]

In today's new *constitutional state*, this idea carries more weight than ever before. We must constantly ask whether the outcome of our work is consistent with the rule of law. Unlike is often the case – sadly – answering this question involves more than a perfunctory nod to human and fundamental rights.

One way to continue an account of methods is to examine what we may call the *basic method*. I would describe this as the sum total of the considerations a legal researcher should take into account in trying to do quality research. The concept of a basic method as I use it here emerged in the course of my looking at the work of the famous Swiss scholar Alois Troller (1906–1987). Of particular importance was his 1975 publication on legal theory dealing with the legal methods.[3] In this work, he put forward how he understood his own method. It was original thinking on his part: the publication had no footnotes. An interesting solution?

Our method brings us together and sets us apart. We are accustomed to speaking about the legal method as something we share in the legal profession and something that distinguishes us from the other professions. Different professions work in different ways. There is every reason for us to speak of the basic components of different professions. Solid professionalism is one hallmark of a profession. Methods are that professions use to communicate their uniqueness.[4]

A method is also crucial within a profession as a standard. Justice of the (Finnish) Supreme Court, Juha Häyhä, has aptly observed that "the methodological self-conception of the scientific community is one of the central guarantees of the reliability and, at the end of the day, the credibility, of the work done in the field of law". It is easy to concur with this erudite view.[5]

The question we have to confront ourselves: what all does a method consist of, and how is it expressed? Further, we have to keep asking ourselves: How does a method change and when does a method need changing? These have been and continue to be salient considerations in assessing the role of legal informatics as one of the *essential legal sciences* of our time.[6]

The year 1997 saw the publication of the work *Minun metodini* (My Method) in Finland.[7] It features contributions from 17 professors of law in which each examines the method he or she uses. The outcome was surprising, to say the least. The authors' methods differed quite a bit from one another. In fact, some had not thought about or used any method at all. They said they just went ahead and wrote using legal and other sources in various ways. Shocking, absolutely shocking.

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1 Looking up teaching and research staff in notes is important when we try to find the positions of researchers who have not themselves told us what their position is in the family of science. The transparency of science should include making clear the background to one's thinking and one's work as well as one's links. The American scholars Virginia Wise and Frederick Schauer have impressively demonstrated what footnotes can tell readers about the authors' school of thought. See Wise, V. J.,/Schauer, F., Legal information as social capital. Law Library Journal, 99(2), 267–284 (2007).

2 Professor Martino put forward this idea at the 1987 IVR World Congress in Kobe, Japan. I was personally listening to the lecture.

3 Troller, Grundriss einer selbstverständlichen juristischen Methode und Rechtsphilosophie (Das Recht in Theorie und Praxis.) 1975.

4 For example, medicine often uses Arnold's and Stern's image of a temple. The base is clinical knowhow, on top of which rest the levels of knowledge and skills that contribute to that knowhow. See Arnold L./Stern D.T., What is medical professionalism? pp. 15–17. Also well known is the house of quality idea in the field of marketing science.

5 Häyhä, Introduction pp. 18, especially p. 20 in Häyhä, Minun metodini. Doctor Häyhä has since had a long career serving as a judge on the Finnish Supreme Court.

6 I first wrote on the essential role legal informatics has to play in 1990 in an article co-authored with Professor Aulis Aarnio. See Aarnio/Saarenpää, Juristen, rättsvetenskapen, informationen: synpunkter på rättslivets framtid i informationssamhället, pp. 8–31 in ADB, lagstiftningen och juristens roll. (in Swedish).

7 Saarenpää, Kadonneet systeemit (Lost systems) pp. 265–266 in Häyhä (ed) Minun metodini.

In my article, I described the different facets of my own basic method, inspired by the work of Troller mentioned above. I put forward ten essential components comprising the basic method. What I tried to do was to combine information, on the one hand, and legal reasoning and its verbalization on the other. The basic method cannot hinge solely on a single factor, such as hermeneutic reasoning, without our paying very close attention indeed to where the source material has come from and how it has been collected. Another concern is how research findings can be validated, shown to be sound so that those who use them are convinced of the value of the sources and ways in which they have been used. In this light, we see that for example footnotes as a basic tool in legal communication are far, far from being a mere formality.

2. The basic method in the era of Legal Informatics

I have distinguished the following main components of my own basic method:[8]

1. Doctrine of legal sources
2. Doctrine of the sources of information
3. General doctrines as means of knowledge management
4. Knowledge of the legal sciences
5. Interpretation skills
6. Justification skills
7. Communication abilities
8. Knowledge of jurisprudence
9. Professional ethics
10. Requirement of justified doubt

At first glance, the list may seem simple. This is in fact ultimately the case. These are precisely the things that we study and teach day in and day out in law. Further, these are the things we are expected to know – and know well. In fact, this is a list of essentials. Somehow, they even belong to our *tacit knowledge*. Otherwise, we could not stand up and be counted as lawyers. However, fusing these essential requirements into a functional method is a demanding task. In a word, our method is a guarantee of quality when assessing the different activities that we subsume under "legal life". If any features of the product are not up to standard, the overall quality suffers accordingly.

This transposition takes place in the context of the current more international *legal culture*. Legal cultures vary quite a bit from country to country, although our ambition is to achieve the culture of the *optimal constitutional state* that the Swedish academic Kjell-Åke Modéer has highlighted.[9] For example, the openness of government activities and of information differs from state to state even in the EU. The Nordic tradition of openness is rather alien to most of the other Member States.[10] The transition from the old administrative state to the new constitutional state is gradually bringing uniformity in this regard but progress is slow. Leaving the relation between the GDPR and national legislation wide open has certainly not helped matters.[11]

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8 Ibid pp. 264-265.

9 See especially Modéer, Optimala rättsliga kulturer, JT 1999/00 pp. 71 (in Swedish).

10 This is the reason why the Ministry of Justice gave the new law on the openness of government activities the unofficial English name Openness Act when Finland assumed the presidency of the EU in 1999. About the different openness cultures, see more Talus, From Simply Sharing the Cage to Living Together. Reconciling The Right of Public Access to Documents with The Protection Of Personal Data In The European Legal Framework (2019) passim. The work is the doctoral thesis of Finland's current Data Protection Ombudsman, Anu Talus.

11 In Finland an example of poor drafting is the situation in which we can, in accordance with the GDPR, prevent publication of people's incomes by the Tax Administration, but a list of those who want to exercise that fundamental right is a public document. The media eagerly use this opportunity to publish "lists of millionaires".

What then has changed in the basic method and what should change now that legal informatics has become an essential discipline within law in the digital network society? I presume to claim that there are four particular, critical changes we need to focus on. Firstly, we have to talk about legal questions much earlier in everything we do. Secondly, the role of information and its coverage in information systems has shaken our basic method to its very foundation. Thirdly, the importance of legal information systems has changed. Fourthly, and last, the importance of having a deep knowledge of fundamental rights has increased. If this is not daunting constellation of challenges, I don't know what would be.

The requirement that law should figure earlier in societal processes is actually a development essential to the rule of law. We should have the right and opportunity to resolve legal uncertainty as quickly as possible. The inclination researchers and lawyers have to seek out precedents should no longer figure as significantly as it has to date in our legal thinking. The regulation on legal procedures should work to speed matters up.

Likewise, the modern court should be like a modern supermarket, offering quick service and staying open late.[12] Yet, it is even more important to realize how law figuring earlier in everything affects the design of information systems. Failing to incorporate a legal perspective into the planning of information systems until they are pretty much finished is, at the risk of overstating the case, as expensive as it is foolish. Unfortunately, this still seems to be overlooked more often than not. Very often we do not remember just how heavily a modern court of law relies computer and data systems.[13] We should not confine out interest to the readily visible use of computers in the courts.[14]

We cannot really talk about information systems without talking about the handling of information as such. This starts with the initial choice of technical platform and mark-up language and extends to how and in what form the information in the system can be processed. Planning these features often requires the combination of exceptional legal and technical expertise. Where the traditional document-oriented mentality and regulation still prevail, the chances of success here are slim at best. We must remember the international ways of handling information as well. For example, the *Akoma Ntoso* system that has been chosen and is being developed for parliamentary documents will have far-reaching methodological ramifications for individual information queries as well as comparative law.[15]

The third crucial change is the development and use of legal information systems. This, if any of the changes, has been virtually overlooked in legal informatics. All too often, researchers and practicing lawyers alike give less consideration to the quality and accessibility of the information they use than to legal reasoning. In blunter terms, what they do is decide cases with inadequate information. The doctrine of information sources – part and parcel of the basic method – has taken a backseat to the doctrine of the sources of law. Above all, the principles governing the basic of legal information systems are not as well established as they might be. In my textbook on Legal Informatics, I have set out the principles in the following terms.

The core principles of official legal information are that it should be (1) available, (2) accurate, (3) accessible, (4) searchable, (5) understandable, (6) usable and (7) available for free or at reasonable cost.[16] These principles apply for the most part to scientific or commercial information as well.

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12 We can unfortunately find a lot long staying processess. If and when we must wait even about ort more than 10 yearslike in the well known Satamedia and Yline cases, the value of justice fades.

13 See more Saarenpää, E-justice and the Network Society. Some comments from the Finnish point of view in Cerbena, pp 216 ss., (ed) Brazilian and European perspectives on eJustice Brazilian and European perspectives on e-Justice. Edition in Portuguese and English. Curitiba: Federal University of Paraná (2016).

14 Ibid.

15 About Akoma Ntoso see more for example in Palmirani, Lexdatafication: Italian Legal Knowledge Modelling in Akoma Ntoso. AICOL 2020: 31–47.

16 Saarenpää/Riekkinen, Oikeusinformatiikan perusteet (2023). p. 131. You can find the book as an open science publication at https://lauda.ulapland.fi/. It is however, written in Finnish only.

All in all, they are of critical importance in all legal activity and in more general contexts as well. After all, legal information is undeniably part of our social capital. As the transparency of information is becoming a near-ubiquitous and manifest principle, it will shape the ways in which we use legal information.[17] If we forget this, we will find ourselves on a slippery slope. A paucity of sources may lead to our failing to notice what is right. The goal of exact match information searches will elude us.[18]

The fourth sweeping change is the heightened importance of fundamental rights in the European constitutional state. We are only gradually waking up – some faster, some slower – to the new role fundamental rights play in legal life in practice. The rights and their respective importance in different situations stand to change our basic methods. The GDPR, among other developments, has made this quite apparent. One telling example of the problems involved in reconciling the interplay of fundamental rights is the CJEU's decision in the Google Spain case (C-131/12).[19] The Court concluded that through its act of locating, indexing and storing data, a search engine can be regarded as a "controller" with respect to the "processing" of personal data.[20] Our right to be forgotten should not be undone by the permanence of search engines. We must always remember the central principle that in terms of data protection information which in practice has become unnecessary should be destroyed or archived.

One important example I can cite in the area of information management also has to do with how the legal materials used are presented in court judgements and different decisions. This is by no means a new issue and has taken on different forms in different legal cultures. But it will come a new as we develop the information systems used by courts. For example, we have to ask what kind of legal literature judges are using and what materials are available to them on their computers. If they have relatively few sources available to them, justice will become scarcer. We end up using legal sources that someone somewhere has chosen for us. This no doubt is having its impacts on the shape of our legal culture.

In my view, the four changes we must navigate on our way to the constitutional state bring out in bold relief just how demanding our basic method is as a framework of expertise in legal informatics. The day is long past when information technology was a novel development that challenged the general systematics of our discipline. Today systematics and changes in method go hand in hand. Legal life requires a higher level of skills than ever. In his work on digital law, Ethan Katsh was among the first to point out the transition to digitalization would require lawyers to have more skills.[21] One of these derived from the heightened importance of justified doubt. As Peter Seipel has emphasized, legal informatics has been and is a forward-looking science. "The general theory of legal informatics has for a long time been aware that IT-based information handling in society tends to shift attention from reactions ex post to measures ex ante".[22]

3. Concluding remarks

In the Nordic countries, it has been our custom to emphasize the importance of the systematic management of legal knowledge. The idea here, too, has been to guarantee quality of product. Theories, principles and concepts create structures – allgemeine Lehren – which guide us in searching for and processing information. The internationally renowned Finnish legal theoretician Aulis Aarnio has put it appropriately: "A system

[17] See more for example UNESCO Recommendation on Open Science (2021) at SC-PCB-SPP/2021/OS/UROS.

[18] In practice the problem is what kind of information courts use and what kind they can use given the systems they have. See also from this point of view Saarenpää, Web Accessibility and What Law Should Look Like in Open Data Store, passim.

[19] CJEU 13 May 2014, C-131/12, Google Spain and Google.

[20] In this case, the Finnish Advocate General examined the matter in terms of freedom of speech. In the final decision, freedom of speech is not even mentioned. The case has widely been described as involving the right to be forgotten. But it may better bet the right to be outside indexing. See also shortly Bygrave, A Right to Be Forgotten? Communications of the ACM, January 2015, Vol. 58 No. 1, Pages 35–37.

[21] See Katsh, La in a Digital World, (1995) pp. 193–194 and Saarenpää, The Digital Lawyer Jusletter IT 26. Februar 2015.

[22] See Seipel, IT Law in the Framework of Legal Informatics p. 10 in Scandinavian Studies in Law 2004.

fixes the structures that determine what alternatives are available in making decisions different situations. If the boundaries of the system are broken, the decision made is not consistent with the law as it stands at the time."[23] This does not mean any we are slaves to a static system. We must be ready to modify the system, when there are enough acceptable reasons to do so.

Let me take up one sad practical example. When Finland's first data protection law – the Personal Data File Act – was enacted in 1987, the editor of the systematic law collection *Suomen laki* (*The Laws of Finland*) classified it under *administration law*. There it was between the Bladed Weapon Act and the Bingo Decree. *Bingo!* The editor – a member of the supreme court and expert in penal law – was not familiar with the Law of Personality (Persönlichkeitsrecht) or with Legal Informatics (Rechtsinformatik) as legal disciplines.

Nothing is created in a vacuum. Legal tech, for example, is closely bound to something that has gone before it. It is a lab tech matter that we must be better able to probe technical implementations in order to see how information is being processed in different situations. This is quite a change indeed compared to the days when even I emphasized that a knowledge of information technology as such was not essential for working in legal informatics. Today, if we engage in justifiable doubt, the use of AI in different forms in government looms as a methodological and technical concern that requires more weighty regulation. It is still important to remember that the links between AI – or calculations billed as such – and human thought processes have yet to be established. The progress we have seen in computing power and machine learning gives us good reason to enact more detailed regulation on processes that are marketed as AI systems or which would yield similar results without being touted as such.[24]

It is no longer good enough to state that AI should not be used in assessing people. This is what we did starting with the adoption of the 1995 Personal Data Directive and on into the GDPR. Now it is imperative to go deeper and enact regulation that will ensure uniform use of AI.[25] We should of course have done this a while back. The enthusiasm of governments to adopt ever more powerful IT obscured the transition to the use of AI. In legal perspective, the procedures and technical implementation diverged from one another.[26] This is something that should never have happened.[27] The promising field, where we can and should use AI, is in systems that draw their readers attention of suspect sources and warn them of misleading sources. The Layman Allen old idea of a *Normalizer* is still valid.[28]

Summing up, I would like to conclude with citing the words of Aulis Aarnio:

> "Conceptions of justice are not born in a vacuum. Those tasked with interpreting the law are part of a tradition that has taken on a particular shape before them and will continue after them. The process at work here is the same as that governing one's native language. Every generation acquires its own native language, masters it to a particular extent – this is taken for granted – and perhaps changes it a bit. But a language is not dependent on an individual person. Analogously, in order to recognize the standards for

[23] Aarnio, Tulkinnan taito (2006) pp. 404–405 (in Finnish).

[24] Professor Wolfgang Kilian, one of the pioneers in legal informatics, has once again put the matter aptly: "There are human characteristics that cannot be replaced by a computer. This should not be forgotten in all the euphoria about "artificial intelligence". See Kilian, Legal Tech: Artificial Intelligence and Legal Decisionmaking. Computer Law Review International 4/2022 pp. 127–128. Cf also, what Luke Munn has by an interesting way written about the uselessness of AI ethics. Munn, The uselessness of AI ethics, AI and Ethics 2022. https://doi.org/10.1007/s43681-022-00209-w.

[25] See COM(2021)206 – proposal, Harmonised rules on artificial intelligence (Artificial Intelligence Act) and amending certain union legislative acts.

[26] In Finland, the extensive information systems of both the Social Security Institution (Kela) and the Tax Administration have, unfortunately, been illustrative example of this. Now government has in November 2022 given a new bill to parliament concerning the use of AI in customs and taxation registers.

[27] In autumn 2022, even before the final draft of the EU Artificial Intelligence Act was completed, the Finnish government brought a proposal before Parliament on how AI could be used in government.

[28] See more Allen Layman E., Symbolic logic: A razor-edged tool for drafting and interpreting legal documents. Yale law journal, vol. 66 (1957), pp. 833–879.

> what is just, judges must know the culture, social history and operating principles of the nation they serve; they must comprehend the essential attributes of what it is to be a human being and what is expected of a person as a social being."[29]

When we add here that analytical law as Aulis Aarnio understood it sought to remove unnecessary concepts, it is easy to see that legal informatics in Nordic perspective is clearly a continuation of the analytical law that preceded the birth of the digital network society. Without a method that addresses the challenges of the times we are easily lost or forced to satisfy ourselves with no more than describing what the law says in the spirit of "Just open the law book"[30]. Likewise, we should avoid talking about "overall consideration", an expression that may be used to mask the factors affecting the decision or, indeed, to cover up the incompetence of the person(s) making the decisions. All too often just such a suspicion arises when looking at the decisions of courts and other authorities.[31]

In the age of the digital constitutional state, we see basic method undergoing renewal both horizontally and vertically. Our skills must achieve a new depth. The tendency of the profession to avoid the new (information avoidance)[32], whether in the case of information technology or legal regulation, is something legal informatics is called upon to combat as effectively as possible. *Confirmation bias* as a lawyers basic sin has been and can continue to be a dangerous attitude for the profession in this age of digital change.[33] One of our leading sociologists in Finland, Risto Heiskala, has addressed the same issue when considering the impact of social research: "Yes, if we think that those making decisions today, once firmly assured of their positions, will keep working for the next 20 to 40 years, the direction the world takes is going to be decided based on a society that is an average of 30 years old. University teachers would do well to think very carefully about what they say in their lectures!"[34]

When thinking for example about the content of information law, we must consider the role of the requirement of justified doubt in our basic method. What is and what should be the role of *information law* now when we are discussing the new European data legislation?[35] And should we rethink information law from the standpoint of fundamental rights so that we can better avoid the ever-increasing tensions between privacy, data protection and transparency? Here, too, we clearly have a question of method.

Let us go back to the topic I started with, the basic method. If this is not taken into consideration as a whole in the work we do, our legal information skills can easily go askew. At worst, we will find ourselves using inadequate and second-rate sources or foundering in detail to the point that our thinking will leave practical needs behind. As the saying goes, theory is done for theory's sake. Where this is the case, the quality assurance we have in the profession is not functioning properly. The lines of communication between different legal skills have broken down. This is also a practical threat to the success of legal informatics.

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29 Aarnio, Essays on the doctrinal study of law (2011).

30 Professor Kauko Wikström has, as I have often noted, described ordinary legal life, by which he means law that avoids theory, as "'Just open the lawbook' jurisprudence". The text as such is expected to provide adequate answers to the lawyer's questions. See for example Wikström, Kuka tarvitse oikeuslähdeoppia (Who doeas need the theory of Legal Sources) in Tala/Wikström/Impola (eds), Oikeus – kulttuuria ja teoriaa: juhlakirja Hannu Tolonen (2005).

31 "Overall consideration" is a comparatively common expressions in Finnish jurisprudence. The way it is used varies however. In the Supreme Administrative Court its use in alien affairs is in fact based on the law. The expression, "the court takes the view that", which was common earlier, has also often been used to obscure the actual reasoning.

32 See more Golman/Hagmann/Loewenstein, Information Avoidance, Journal of Economic Literature Vol. 55 No. 1 March 2017.

33 About *confirmation bias* see more for example what Peter Wason, who introduced the concept, has written in his works.

34 See Heiskala, Yhteiskuntatutkimuksen vaikuttavuus ja uusi uljas maailma, (The effectiveness of social research and the brave new world), (Tieteessä tapahtuu (Science Now) 1/2016 pp. 27.

35 Cf Saarenpää, Information Law Revisited / Informationsrecht – noch einmal, passim in: Jusletter IT 23. Februar 2017.

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