

Practical Impacts of the *Mayo/Alice/Biosig*-Test – A Tutorial about this Key to Increasing a Patent’s Robustness –

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I. INDEPTH INTRODUCTION TO THIS SHORT TUTORIAL

By its *KSR/Bilski/Mayo/Myriad/Biosig/Alice* decisions, the Supreme Court clarified the fundamental notions indispensable for establishing consistency and predictability in "**SPL precedents**"¹⁾ as to "**ET CI**"¹⁾ patents/applications/reexaminations – and, to this end, to be accepted by the community of patent practitioners.

These decisions’ implications enable, among further advantages [137], inventors/investors to protect their ET R&D high risk investments by much more robust patents on ET CIs than hitherto possible: The peculiarities of any ET namely make patents on its CIs very vulnerable – as the classic claim construction for "**CT CIs**"¹⁾, hitherto exclusively practiced by SPL precedents, is logically definitively unable to guarantee to ET CIs the same high degree of protection as to CT CIs, due to any ET’s total destruction of the "**CT paradigm**".

The CT paradigm assumes the total understandability by human intelligence of its CIs. Yet, currently, ETs work vastly outside of the total understandability by human intelligence. The CT paradigm in particular is not made to specify non-trivial non-physical behavior of a part of an ET CI. E.g., it is already overstretched, as a rule, as soon as a biologic organism is somehow involved in this CI. While this logical interrelation hitherto has been completely ignored, the difficulties it caused have been repeatedly encountered in SPL court cases, e.g. in *Biosig*: It suffers from exactly this ET CI’s partial lack of an a priori underlying certainty as to all its biologic parts – usable by the claim language and the specification for preciseness/definiteness of this organism – as not provided by the CT paradigm.

Thus, for ET CIs, it is just nonsense to base their patent protection on the CT paradigm, as it is totally lacking of established a priori certainty usable by their specifications and claims. I.e., notoriously here the unreasonable assumption is made that there were an "**ET specific paradigm**"²⁾ capable of providing such certainty by an ET specific *posc*³⁾, without noticing that using this established hind-seeing thinking for precisely/completely specifying an ET CI's properties unconditionally requires an effort mostly not needed when dealing with CT and hence tangible CIs. Namely, to establish this certainty for this ET CI by assessing that in- or extrinsically is clearly specified what the meanings are of the notions its specification uses – otherwise this ET CI's specification is a contradiction in itself, and hence absolutely untenable when striving for consistent SPL precedents.

¹ SPL = Substantive Patent Law, E/CT CI = Emerging/Classic Technology Claim(ed) Invention). "Reference List items" may identify S./p./ftn./..., e.g. [121^{S.IIIIII}], [92⁹]. This paper/tutorial is highly redundant [150^{S.I}].

² – alias "**ET specific model**" or just "**model**", for brevity –

³ "*posc*" stands, by *KSR*, for "pertinent ordinary skill and creativity". The often leading but notionally outdated term "person of" is left away.

This short tutorial does not elaborate on this "ET **posc** pitfall" – important especially for all kinds of patent examinations – although it has disastrous impacts on patent-eligibility/definiteness/obviousness questions of CT paradigm based ET CIs. Its two examples just shall make aware that this specific additional amount of scrutiny required for completely/precisely specifying an ET CI is evidently vastly comprised by the significantly increased amount of scrutiny required for double-quantifying an ET CI's inventive concept [150,151] – i.e. that the increased amount of scrutiny required by its refined claim construction vastly eliminates this ET **posc** pitfall⁴, for everybody.

By its above quoted line of unanimous decisions, the Supreme Court proved that it had clearly recognized ●) not only the principal threat to the US society's wealth by not protecting its primary source, namely its ET CIs – as this pitfall, inherent to any ET, puts the national patent system into jeopardy – ●) but also, primarily by *Mayo*, how to ban this threat, thus inducing the FSTP-Test, which eliminates this thread by "double quantifying" these ET CIs' inventive concepts⁵⁶.

The preceding tutorials [150,151] elaborated on, by the FSTP-Test illustrated, both these fundamental insights into testing of ET CI patent(application)s for their satisfying SPL as required⁷ by the above Supreme Court decisions. They also showed that the FSTP-Test's scrutiny/rationality is "total" – i.e. forces its user to execute it completely on an ET CI under test⁸, thus to completely check whether it passes all tests for satisfying all 4 SPL §§ 112/101/102/103 (hence logically comprising the even refined *Alice*'s patent-eligibility and *Biosig*'s definiteness tests) – therefore dramatically increasing the robustness of the patent(application) comprising this ET CI.

⁴ This "ET **posc** pitfall" is to be distinguished from any "SPL testing pitfall" kind discussed below.

⁵ The harsh critics by the patent community encountered by this line of decisions makes wondering whether they were driven by godly flashes or just by emerging rationality about the being of ETs (probably being of the same source). Anyway: In *KSR*, the Supreme Court started vaguely asking for rationalizing/ quantifying a (pretty CT) CI's inventivity by questioning the normal amount of skill and creativity of this CI. For ET CIs, the Supreme Court in *Mayo/Alice* additionally asked for quantifying the inventive concepts embodied by them, as enabled by increased rationality/scrutiny. The latter finally enables refining the *Biosig*-test, too – originally not operational, just as the original *Alice*-test, for making it operational – namely by a second quantification of exactly this already quantified inventive concept of the ET CI under test.

⁶ Evidently, none of these decisions ever articulated the notion of "quantifying" the inventive concept embodied by an ET CI⁹. But [150] showed that this notion naturally/mandatorily follows from analyzing the process of creative thinking of the inventor of this ET CI, i.e. by this analysis identifying the number of independent thoughts he/she indispensably had to create for finding this ET CI. These independent thoughts represent the (compound) inventive concept's first quantification (alias disaggregation into elementary inventive concepts). Its second quantification follows from the so quantified inventive concept's quite similar again quantification by the 10 independent concerns embodied by 35 USC §§ 101/102/103/112 [151].

⁷ These decisions – more precisely, the FSTP-Test they induced and the technology it enables – also imply many practically extremely important consequences, see [137] and/or even further reaching [59].

⁸ When starting executing the FSTP-Test, i.e. using its advantages, its user is prompted by it to input to it, of the ET CI to be tested, the elements and their BOD-/BAD-/BED inventive concepts. This evidently requires that the user identifies them in the patent (application) – and marks them up accordingly, therein – up-front and/or iteratively somewhere during executing the FSTP-Test, when needed by it.

When, as prompted by the FSTP-Test, justifications are input (of whatever preceding input), it is crucial that these justifications avoid any "metaphysic" terms/notions, i.e. use only words with very simple meanings, so-called "atomic" notions [121,92]. This atomic/elementary granularity of thinking – in applying the FSTP-Test to an ET CI – about the process of inventing this ET CI by its inventor is indispensable for the rationality of the "independent thought" quantification of the inventive concept(s) of the ET CI under FSTP-test.1. It is practiced, anyway in FSTP-test.o, $2 \leq o \leq 10$, i.e. in exerting the "SPL quantification" of the inventive concept of the ET CI – already "independent thought quantified" for identifying, of this ET CI, its elementary constituents of its inventivity, more precisely: of its invented usefulness [42,45].

Hitherto, prior to the FSTP-Test, guidance such tight in a test so powerful has not been known⁹. Hence, its potential is once more presented i.o.w.: When testing an ET CI by the FSTP-Test, its guidance is absolutely invulnerable – as any non-obeying it is fully automatically detectable – and forces any

- analyzer to disclose his/her view, why this ET CI meets ANY SPL requirement, in answering the FSTP-Test's respective prompt – thereby holding if all these answers are affirmative and correct, nobody can invalidate this ET CI – and
- examiner to attack the validity of this ET CI by proving that one of these analyzer's answers is wrong, as no other option of successfully attacking it exists.

This clearly structured, complete, and stereotypically correct SPL satisfiability check of an ET CI by the FSTP-Test – together with the equally clearly structured, complete, and stereotypically limited challenge potential of this test result – evidently establish a quite different quality of reasoning, than anything ever heard before, about an ET CI's meeting all SPL requirements or not.

In Section II this tutorial now first explains the 3 views at the Supreme Court's *Alice* decision at the patent-eligibility of an ET CI, i.e. on its above total scrutiny⁸⁾¹⁰. I.e., would the *Alice* specification have been properly checked by some patent lawyer – even if using the *Alice* tests today state – describing the inventivity of its ET CI (with all likelihood embodied by its transaction settlement system¹¹) would have "automatically" required providing exactly that information about the ET CI, the Supreme Court complains to be missing. The lack of this information blocks any court from recognizing its patent-eligibility – otherwise enabling it to the contrary decision.

In Section III it shows that a panel of the CAFC in the *Interval* case in principle does apply such scrutiny, as required by the Supreme Court, here especially by its fundamental *Biosig* decision – but obeying it only partially and also ignoring *Mayo/Alice* completely. Thus, caused by this only partial scrutiny, here several basic deficiencies of this CAFC decision could prevail – which would have been avoided by fully meeting the scrutiny requirements implied by the Supreme Court's above quoted line of decisions and implemented by the FSTP-Test.

In total, this short tutorial thus extends [150,151] by showing that – while the *Mayo/Biosig/Alice*-decisions require a higher amount of scrutiny in drafting patent applications on ET CIs, in particular when “double quantifying “ them by applying the FSTP-Test to them – this effort is by far outweighed by the substantially increased legal robustness of so drafted patents, making them practically invulnerable, whereas sparing part of this scrutiny in a patent application is likely to legally destabilize it in an immediately recognizable way.

⁹ For SPL testing a CT CI – which the FSTP-Test would also check for 100% SPL satisfaction – this amount of scrutiny may often not be necessary. Yet, it is indispensable for assuring an ET CI does satisfy SPL.

¹⁰ It does the contrary of threatening the future of SW patents, if they disclose enough patent-eligibility/-ability: Then, by explicitly verifying both (and the other necessary properties) increases their robustness.

¹¹ If Alice's system had not embodied substantial usability advantages, which to create is non-trivial and hence potentially patent-eligible (as explained by Section II), CLS would have re-implemented it in some other usability – which is absolutely trivial, if these usability issues may be left aside.

II. THE SUPREME COURT'S ALICE DECISION

It addresses 3 different aspects¹²⁾ in updating *Mayo*: Namely, *Alice*'s

- "*Mayo short-term*" aspect, refining the Supreme Court's *Mayo* indication of how to approach an ET CI's patent-eligibility property by its alphabet/syntax¹³⁾. This indication refinement in principle confirms the earlier developed FSTP-Test [5-7], as it is from *Mayo* directly derived – explained by the tutorial [150].
- "*Mayo medium-term*" aspect, by which the Supreme Court indicates how to expand this approach to (the patent-eligibility property of) an ET CI also to the latter's potential types of semantics/pragmatics, on which its patent-eligibility is depending, by identifying the semantic/pragmatic boundaries of these different types of non-patent-eligible creativity (the latter modeled by this ET CI's inventive concept(s) [150]) – outlined in [113] as a scientific problem ahead.
- "*exemplary Mayo application*" aspect, by which the Supreme Court indicates that this approach may already be used for determining the (non)patent-eligibility property of an ET CI – here of the *Alice* ET CI at issue – without having resolved the just mentioned scientific problem.

Section II is focused on this third aspect. Its objective is to enable all courts to make patent-eligible decisions congruent to this Supreme Court decision and refining it: Not only by lip-services [113,138], but carried by the courts whole-heartedly for not destroying ETs' potentials – as recognizing ET CIs' peculiarities are not only necessities of rational/social thinking, but also the only reasonable justification of our hope of preserving our social expectations, common to all of us.

This decision has been discussed already in [113], showing this ET CI patent's "**focus deficit**" – telling patent lawyers what their responsibility is in drafting them.

[92] stated already: The Supreme Court here must criticize (opinion on p.15) that nothing new and useful is identified for this ET CI's claim terms (1)-(4) (opinion on p.14), separately or as a whole, just their a priori known functions. I.e., the specification fails to present, how providing these known functions in a distributed, open, convenient transaction settling system solves tricky concurrency/deadlock/confidentially problems. The system designers solved them such that their ET CI is robust/trustworthy/resilient/... to a degree making it deserve the attributes new and useful. But in its specification such properties are lacking – ignoring the requirements stated by § 101 – assuming the clarity of describing the ET CI's general responsibility/ working in settling transactions were enough. It is not, as this specification does not expose the new usefulness invented by this ET CI, capable of making it patent-eligible.

I.e., the Supreme Court's *Alice* decision doesn't threaten patents on SW CIs or other ET's CIs. It just requires from them to expose their patent-eligibility – by their inventive concept(s) and as the Supreme Court requires. Otherwise patents for ET CIs were granted without understanding the being of their invented alleged usefulness, driving SPL precedents into inconsistency and SPL protection of ET CIs into ruin.

¹²⁾ of how to describe an ET CI, as seen from the point of view of testing it for its satisfying SPL

¹³⁾ Not using AIT [2] terms/notions complicates all explanations of cognition – why reading e.g. Kant is difficult. There will be another less than 10 page tutorial [155] introducing into System Design – more is not needed for overcoming this barrier to understanding the thinking in AIT/Mathematics needed here.

III. THE CAFC's *INTERVAL* DECISION – PART OF *BIOSIG* OBEYED

This Section III discusses a CAFC panel's well substantiated effort (as opposed to [138]) to proceed as required by the Supreme Court's *Biosig* decision in its analysis as to an ET CI's (in)definiteness, here in the *Interval* case. It indeed provides clean elaborations on two groundbreaking statements of *Biosig* – reaching far beyond solely the indefiniteness issue – but completely fails to clarify *Biosig*'s third key issue.

A third fundamental indefiniteness question, raised by Amicus Briefs to the Supreme Court and in its critic of the "insoluble indefinite" test, is not addressed at all by the CAFC, though it is totally controversial – namely, whether an ET CI may have different interpretations. I.e., *Interval* up-front assumes that a claim must have only a single interpretation for being definite, yet without explaining why. Neither SPL, nor SPL precedents, nor AIT, in particular not the Supreme Court's *Biosig* decision, has ever postulated that a CI's scope is not uniquely defined – then this CI were indefinite, by *Biosig* – if this CI has several different interpretations. Thus, his assumption is evidently wrong, as [58] clearly shows. What must be excluded is not that a CI has several interpretations – but only that this set is undecidable [121^{5,d},155]!

The impacts of these three aspects of this CAFC decision are enormous.

Firstly: The all overarching message conveyed by this decision is that the CAFC finally confirms that the analysis of a CI's (in)definiteness must start with its claim construction – just as the Supreme Court did in *Mayo/Alice*. I.e.: It confirms that there is no orderly (in)definiteness test – or patent-eligibility, or obviousness test – without first performing an orderly claim construction. This is logically evident. Nevertheless has the CAFC in the past repeatedly repudiated this trivial truth, as criticized already in [92,121]. It also still is not yet proceeding as required by *Mayo/Alice* – see below.

Secondly: The CAFC now clearly also follows the Supreme Court's statement in its *Biosig* decision that a court is not entitled to assign an interpretation to a claim, in particular not the "broadest reasonable interpretation, BRI^{pto}", which *Biosig* explicitly qualifies as inapplicable. The CAFC thus ends the use of the BRI^{pto}, permanent with the PTO and frequent with the CAFC (against its own *Philips* precedents!!!). Though absolutely unmistakable, the resp. reasoning in the *Interval* decision is covered, probably for remaining "politically correct" as to a touchy problem: The CAFC thereby namely kills the favorite of the very many intellectually less interested members of the patent community, i.e. their as convenient as nonsensical legal instrument [121].

Thirdly: Besides these two CAFC clean-up actions – of broader scope than just the (in)definiteness issue – the analysis of this materially focal point of the *Interval* decision suffers from the above legal error: Without this untenable assumption causing it, i.e. when acknowledging that an ET CI may have several interpretations – especially if these are as tightly interrelated, as here [58,74] – the decision's very careful problem analysis would evidently not have found the alleged indefiniteness to exist.

Finally, not applying *Mayo/Alice* and identifying the ET CIs' inventive concepts, first, deters the CAFC from recognizing, during its claim construction, that there is the risk that some of the ET CIs at issue, here, are subject to the "abstract idea" patent-noneligibility exemption, due to the *Alice* reasons explained in Section II.

Abbreviated Reference List of the FSTP-Project

FSTP = facts screening, transforming, presenting
(Version_of_05.12.2014, i.e. of this paper, see the complete actual list on*)

- [2] AIT, “Advanced Information Tech.” or “Artificial Intelligence Tech.”, denotes topical IT areas, e.g. AI, KR, DL, NL, Semantics, System Design Tech.
- [5] S. Schindler: “Math. Model. Substantive Patent Law (SPL) Top-Down vs. Bottom-Up”, Yokohama, JURISIN 2013*).
- [6] S. Schindler, “FSTP” pat. appl.: “THE FSTP EXPERT SYSTEM”, 2012*).
- [7] S. Schindler, “DS” pat. appl.: “AN INNO. EXP. SYS., IES, & ITS PTR-DS”, 2013*).
- [42] SSBG’s Amicus Brief to the CAFC in case CLS, 06.12.2012*).
- [45] SSBG’s AB to the Supreme Court as to the CII Question, 28.01. 2014*).
- [58] SSBG’s Amicus Brief to the Supreme Court as to its (In)Definiteness Quest’s, 03.03, 2014*).
- [59] S. Schindler, “UI” pat. appl.: “An IES Capable of Semi-Auto. Generating/Invoking All Legal Argument Chains (LACs) in the SPL Test of a Claimed Invention (CI), as Enabled by Its Inventive Concepts (inCs)”, 2014*).
- [74] B. Wegner, S. Schindler: "A Mathematical KR Model for Refined Claim Construction, I ", in preparation
- [92] SSBG’s Petition for Writ of Certiorari to the Supreme Court in the ‘453 case, 06.10.2014*).
- [113] S. Schindler: “The CAFC’s Rebellion is Over – The Supreme Court, by *Mayo/Biosig/Alice*, Provides Clear Guidance as to Patenting Emerging Technology Inventions”, 07.08.2014, sub. for publ.*).
- [121] SSBG’s Petition for Writ of Certiorari to the Supreme Court in the ‘902 case, 25.08.2014*).
- [137] S. Schindler: “The Rationality of a Claimed Invention’s (CI’s) post-*Mayo* SPL Test – It Increases CI’s Legal Quality and Professional Efficiency in CI’s Use, and Stimulates/Inspires the Inventivity to/in CI’s Further Development”, in prep.
- [138] R. Wetzler, M. Hulicki, S. Schindler: “The Problem of Patent Ineligibility Due to an Abstract Idea in the Light of the Recent ...”, Bangkok, ILCP, 2015.
- [150] S. Schindler: “Alice-Tests Enable “Quantifying” Their Inventive Concepts and thus Vastly Increase the Robustness” of ET Patents – A Tutorial about this Key to Increasing a Patent’s Robustness –“, submitted for publication*).
- [151] S. Schindler: “*Biosig*, Refined by *Alice*, Vastly Increases the Robustness of Patents – A Tutorial about this Key to Increasing a Patent’s Robustness –“, submitted for publication*).
- [155] S. Schindler: “A Short Tutorial into (Operating) System Design and AIT Terms/Notions for Facilitating Understanding Rigorous ET CIs’ Analysis by the Patent Community“, in prep.

*) available at www.fstp-expert-system.com