

## AI-Interpretation of US & German Substantive Patent Law will Boost R&D-Investments.

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### I. Groundbreaking AI/SPL-Innovations by the FSTP-Project: The IES, 'US-SPL Equivalence of G-SPL, ...'<sup>1.a)</sup>.

The 'Innovation Expert System, IES' exhausts cutting-edge AI for unfolding patents' socioeconomic SPL-potentials – especially for any kind of ETCLs<sup>A.1)/[2,443,445]</sup> – by supporting drafting/specifying as well as SPL-testing it ●(semi-) automatically and ●(markedly-) robust<sup>4.b)</sup> in ●natural SPL-English<sup>[372]</sup> (i.e. in a next to trivial way)<sup>[9.c]</sup>.

These AI/SPL/IES-innovations thus take any patent business from its hitherto level of development of pre-industrial error-prone IP manufacturing to a development stage of post-industrial error-free & vastly automatic IP management.

The Supreme Court refined US-SPL with an ETCL 'framework'<sup>b)</sup>, key to the IES. The German BGH also refined its G-SPL (on the IES later this year). Worldwide, there is no to the IES alike 'patent technology' system<sup>[182]</sup>.

This paper proves, in Section V, that AI significantly empowers both SPLs legally and materially/factually, as stepwise shown in Section II-IV. The US & G patent communities hence may commonly enjoy groundbreaking socioeconomic advantages<sup>e)</sup>: By AI in innovation/patent business enormously simplifying and ●increasing the productivity of dealing with and ●achieving the marked/total correctness<sup>4.b)</sup> of decision making in it, especially with ETCLs<sup>d)/[9.c]</sup>.

But above all: The thus refined US- & G-SPLs – worldwide the only SPLs today already fit for ETCLs<sup>e)</sup> – will jointly be economically sufficiently strong for excluding that some powerful market interests could further leverage on the versatile and really deceiving but inevitable PE-problem such that the US and German SPL-precedents would also eventually become immaterial. Such threats (see<sup>A.2)</sup>) are invited by notional confusions caused by legally erroneously reasoning about ETCLs not in their markedly robust KR<sup>4.b)</sup>, but in insufficiently/nonrefined (= 'classical' alias 'metaphysical'<sup>3.c)</sup>) SPL, as the CAFC and USPTO do<sup>e.g.415]</sup>. This enables their both simple & successful 'PE-attacks on ETCLs – though semiotically (and hence legally) erroneous, as shown in detail in<sup>e.g.415]</sup>. I.e.: While hitherto the patent community took this AI-scrutiny<sup>a)</sup> as 'perhaps meritorious elsewhere'<sup>[432]</sup>, the US now strives (as the author trusted) for the lead in the overdue SPL game change<sup>[456,457]</sup>, as deserved by the US's innovativity and its Supreme Court's support..

<sup>1.a</sup> "AI" here stands for "Deterministic Mathematical AI" – both adjectives being indispensable in courts' legal decision making and in automating it, both possible only when using "Mathematical Knowledge Representation" – while the bulk of AI literature is nondeterministic & pseudo-mathematical, hence usable only in searching & alike, usually not needing them. While this 'Mathematic Epistemology based AI' is intellectually more demanding than any 'bulk AI', this drawback is by far overcompensated by its richness as to the 3 bullet points' issues, e.g. the IES. "FSTP" stands for "Facts Screening/Transforming/Presenting" and the index "<sup>A.n)</sup>" for "AI-ANNEX.n", n=1,2,3,...

**NOTE 1:** For a strictly scientific<sup>2.b)</sup> AI/SPL-research report – what this short paper indeed is – its first paragraph's much-promising 3 catchwords are unusually phony. Yet, this paper confirms them by its ftns and/or FSTP-Project references explaining & scientifically proving their correctness and truth by AI – i.e. by correctly and completely interpreting the AI in the Supreme Court's MBA-framework. These 3 AI/SPL-innovations also render the IES – in creating & reporting its legal and/or factual SPL-decisions – absolutely correct<sup>d)</sup>.

**NOTE 2:** Another main message is that the refined US-SPL is notionally the finest SPL relevant for patenting creations – while the refined G-SPL is capable of legally protecting also 'non-semantics-based' creations, e.g. by copyright law.

<sup>b</sup> It comprises the semiotic requirements stated by the 6 US Supreme Court decisions in *KSR/Bilski/Mayo/Myriad/Biosig/Alice*. From an AI point of view, the 2 German 'Bundesgerichtshof, BGH'-decisions in *Spannschraube* and *Gegenstandsträger* comprise the semiotic refinement of the US-SPL<sup>3.a)</sup>.

The US Supreme Court's higher legislative power in the US Constitution – than that of the German BGH – is of no concern here. Considering the CAFC's (& USPTO's) precedents about ETCLs were required, if it had not misinterpreted the MBA-framework<sup>415]</sup>.

<sup>c</sup> Other main results of the FSTP-Project – besides clarifying the US-&G-SPLs' patenting equivalence – are not elaborated on here, but in general in<sup>9.c)</sup> and in detail in many published FSTP-references (see the IES in the FSTP-Reference List).

<sup>d</sup> The actual 'User Interface, UI' of the IES prototype supports only the refined US(i.e. not G)-SPL. For any ETCL, it nevertheless enforces (through its ETCL-KR) its completeness and legal correctness – yet not of its factual one. While the former is ETCL-independent, any fact is to be defined & confirmed by the 'person of pertinent ordinary skill and creativity, pposc', or alike<sup>[440,445]</sup>.

<sup>e</sup> as having already a sufficiently refined 'US/G-SPL'. A future EU Highest Patent Court (and/or an EPO- or IP5) initiative might expand the German SPL-precedents to other EU/EPO/IP5-nations, thus establishing a kind of 'SPL Schengen region' (put in EU-terms), i.e. might expand US/G-SPL's appeal potentially worldwide – what the author sincerely expects to happen.

Thereby, any ETCl (and CTCl) in whatever KR\* is easily transformable to a US markedly robust KR by simply applying the FSTP-Test (Section V) to this KR\*. This namely enforces this KR\* into this ETCl's markedly robust<sup>3.b</sup> 'US-ETCl-KR' alias 'US-COM(ETCl)'<sup>[445]</sup> – by the IES even (semi-)automatically<sup>A.3</sup>).

The successful FSTP-Test of a method/system/... in whatever KR it embodies, additionally proves mathematically that the so identified US/G-patent protected ETCl is used by this method/system/... – thus violating its US/G-SPL unless explicitly supported by it (e.g. by a license). It is the only test (modulo isomorphisms) excluding through its being passed<sup>A.5</sup> that its some smart use in whatever method/ system/... in whatever KR may hide this US/G-SPL-infringement – whatever tricks are applied by this implementation.

Additionally to the preceding key AI/IES-cognitions/-properties/-innovations – implied by the SPL-refinements (by the Supreme Court resp. the BGH) of the different wordings of 35 USC §§101/102/103/112 and of the DPatG §§ 1-5, 14, i.e. of classical US- & G-SPLs – footnotes<sup>2-6</sup>) and 6 AI-ANNEXes indicate and/or summarize some related contexts facilitating grasping the presentations of Sections II-V. Some of them are self-identifying by means of a key word/phrase printed in bold, recapitulating/expanding them, yet here being rationally<sup>3.b</sup>) comprehensible probably only in principle (i.e. on entrepreneur alias “C-level”, i.e. metarational<sup>3.b</sup>), in detail explained in the much more elaborate presentations in<sup>[182]</sup>.

<sup>2.a</sup> The recent “Federal Circuit Judicial Conference” of the CAFC in cooperation with the USPTO and the FCBA in Alexandria was just excellent: ● The presentations of the unique cultural level of the US federal courts – as indicated especially by the two first panels of this conference and their moderators, first of all as to patent law appellation issues – was impressive, ● the new director of the USPTO, Andrei Iancu, communicated the feeling to be the right man in the right place, and ● two outstanding honoraries of the US legislative and judicative – Senator Orrin Hatch of the Senate Judiciary Committee, and the Honorable John G. Roberts Jr., Chief Justice of the United States – provided in their luncheon keynote speeches a never before practiced distinction of the US patent community.

But a remarkable feeling was floating in the air all the time: All insiders of the US patent system expressed with their ‘body language’ that the USPTO’s PE-guideline just as the corresponding CAFC’s and PTAB’s lines of PE-decisions definitively have a problem – simply by demonstratively being absolutely mute about them, although everybody knows that the PE-issue is a very hot-button issue. Also note the allegedly negligible, but in truth game changing metamorphosis that hitherto the CAFC’s PE decisions and versions of the USPTO’s PE-guideline have undergone. Has the most recent PE-guideline’s thinking therefore come under particular scrutiny? This question invites another one: Isn’t this unusually impressive FCBA conference also a – potentially unintentional – indication of a major change coming up as to their dealing with the PE-problem? <sup>9</sup>). The ftns<sup>9-9</sup>) might require it.

<sup>b</sup> **NOTE3: Both SPLs are vastly sciences** – unlike other laws. This holds by Kant’s famous implicit definition of the notion of science, slightly adjusted to today’s English: “*I maintain that in any special doctrine of nature only so much real science can be found, as there is mathematics found*”. Indeed, both SPLs’ court decisions are (seen linguistic-logically) ‘finite first order logic, FFOL’ expressions, legally & factually. Both SPL interpretations’ refinements by the Supreme Court and the BGH enable their mathematization<sup>[DL445]</sup>, i.e. the axiomizability<sup>A.4</sup>) of the SPL description of any ETCl, as meant by Kant above.

The refinement/axiomization/mathematization of an ETCl (and its SPL, both not detailed here) performs absolutely no substantive alias semantic or pragmatic modification of its specifications of its patent (application); i.e. it refines solely this ETCl’s inCs (i.e. their EcrCs/EncrCs and leCs), thus refining solely their KR’s of them (published since<sup>[5]</sup> already). Thereby the original SPLs’ and ETCl’s inCs remain totally unchanged and then are conjunctions of their refined EinCs.

<sup>c</sup> In *Mayo/Alice & Gegenstandsträger/Spannschraube* both Highest Courts emphasized repeatedly that their SPLs require interpreting/deriving from the patent (application) specification by the pposc<sup>1.d</sup>) **an invention/ETCl as a whole** – without regard to whether its KR is fully comprised by this ETCl’s claim wording, or its specification wording/graphics, or its complete patent, and no matter what court decided it (see sections III-V). Thereby *Biosig* removes, by the ETCl’s inventor, from this ETCl a potential inadmissible (as erroneous) uniqueness assumption that previously held for the US-SPL, without the US patent community being aware of it. The G-SPL hitherto, too, makes this inadmissible potential uniqueness assumption, also without G’s patent community being aware of it (see Section V). None of these issues inevitably interacting with an ETCl being PE/PE-decided by the CAFC’s PE decisions or USPTO’s PE-guideline has a rational solution.

<sup>d</sup> The scientification of SPL enabled precisely describing alias digitizing the meanings&KR’s of the ● Supreme Court’s semiotic SPL-terms (‘preemptions’, ‘significantly more ...’, ‘transform the nature ...’, ...), and ● hitherto vague classic SPL (‘scope’, ‘inventivity’, EcrC,...), in turn enabling all the power of refined SPL, first of all correctly and semi-automatically deciding an ETCl’s satisfying SPL.

<sup>e</sup> The major change – asked for by the end<sup>9</sup>), and probably the only smart one – might be to fully accept the Supreme Court’s SPL framework due to its evident socioeconomic beneficiary for the US outlined by *Mayo*<sup>[182]</sup> and to leverage on its implied enormous innovative advantages as unfolded in this framework’s scientification (hitherto solely by the FSTP-project).

This would in particular terminate the embarrassing fact that several of the semiotic key SPL-notions from ftn<sup>9</sup>) are used in CAFC decisions and USPTO PE-guidelines in ways contradicting their Supreme Court’s meanings<sup>[415]</sup> – in spite of their elaborated explanations and discussions in FSTP-papers.

## II. 'US-SPL $\subseteq$ G-SPL' Means: 'G-SPL is of Higher-Equal Rational Refining than that of US-SPL'.

The Constitution assigns to the Supreme Court the responsibility to preserve the US society's wealth. Thus, it had to react on the need to reinterpret the US-SPL *for improving ETCIs' patent protection* by requiring in 6 decisions<sup>1.b)</sup> that they refine their recognizable non-elementary SPL-properties in their small (i.e. as to all their 'inventive /creative concepts') and in their large alias in their whole (i.e. especially as to their 'scope' and 'PE/nPE' definitional potentials) – in total in a groundbreaking worldwide unique and indispensable refinement in SPL-thinking. The US Supreme Court's "framework" for refining specifications of ETCIs will hence be discussed first (see Section III).

As shown in Section IV, the BGH enabled with its 2 decisions<sup>1.b)</sup> – concurrently to, but independent of, the Supreme Court's SPL-refinement – considering G-SPL as refined<sup>3.a)</sup> as the US-SPL, although not targeted at improving ETCIs' patent protection. I.e.: By contrast to the Supreme Court, the BGH proceeded not future/ETCI-oriented, but it considered in them the maximum G-SPL-refinements<sup>a)</sup> for resolving classical patenting problems of a CTCI only (namely its claim interpretation and its obviousness problem: Its 2 decisions ask for *identifying inventions' fundamental creative properties/cognitions* in the large, without resolving (or only recognizing) the by this refinement enabled/implied semiotic<sup>b)</sup> properties as to CTCIs (i.e. additional to their classical ones). These are an ETCI's or CTCI's 'in the large' properties of its **scope** (having a potential undecidability threat) & its **PE** (having a potential total preemptivity threat<sup>a)</sup>).

The notion<sup>b)</sup> of 'rational refinement'<sup>c)</sup> of the KR of an SPL and/or any ETCI under it – in the sense of rationally refining their notional resolutions – seems probably to anybody intuitively/metaphysically<sup>c)</sup> immediately clear, as shown by its intuitive use in Section I. Yet defining this notion's meaning rationally<sup>c)</sup> is not quite trivial, in particular if it refers to the specific refinement of the classic G-SPL such that it rationally exposes a higher-equal notional resolution than the refinement of the classic US-SPL with the Supreme Court's framework-decisions.

<sup>3.a</sup> The relation 'A-SPL  $\subseteq$  B-SPL' holds iff  $\{A-SPL(ETCI)/\forall ETCI\} \subseteq \{B-SPL(ETCI)/\forall ETCI\} \wedge A, B$  arbitrary.

Hence 'US-SPL  $\subseteq$  G-SPL': This relation holds iff  $\{US-SPL(ETCI)/\forall ETCI\} \subseteq \{G-SPL(ETCI)/\forall ETCI\}$ . I.e.: 'US-SPL = G-SPL' holds iff  $\{US-SPL(ETCI)/\forall ETCI\} = \{G-SPL(ETCI)/\forall ETCI\}$ . Thus, upon second glance one sees (as no refinement implies a change of semantics/pragmatics/semiotics – just that of KR – and the set of all ETCIs is the same on both sides): For an appropriate (not the finest) refinement of G-SPL the US- and G-SPLs' rational refinements have the same meanings – in spite of their evidently different • classical wordings and • objectives both are aiming for (see Section II).

The Supreme Court's framework has refined US-SPL already (as explained above and recapitulated in Section III) to the refined US-SPL. Thus here is only of interest that the BGH's refinement is capable of comprising US-SPL – i.e. not whether the BGH has actually defined by its appropriate decisions the US-SPL.

**b** A 'term' is an arbitrary 'identifier' alias 'name'/'acronym'/'reference'/'requirement'/'.../'wording'. A pair <'term'/'...', its 'meaning'> is called 'notion', denoted by its name. The term 'item' is an unspecific alias for any of the just highlighted terms. A notion's meaning, assigned to its term/name/requirement/'.../'wording, is called the latter's 'semantics' – and semantics for a specific need, the latter's 'pragmatics'. The notion of making/creating new meanings/semantics/pragmatics is called 'semiotics'. The necessary & sufficient requirement for '(mathematically) modeling' an at least metarational<sup>c)</sup> natural language word is: For it there is no other meaning (under no condition, i.e. inevitably) than the metarational<sup>c)</sup> one – by pposc to be confirmed.

**c** The meanings of the below 4 bold left hand notions – increasing the notional resolution of Kant's Metaphysics/Rationality dichotomy (but stripped down to only the complexity needed by transforming a metaphysical ETCI description into the Rationality it embodies), later elaborated on by Analytic Philosophy – here qualify properties, i.e. property items<sup>b)</sup>, of SPL or an element of a COM(ETCI)<sup>445)</sup>:

- **metaphysical**: a MUIS(ETCI) indicating neither high speculativity nor even transcendence, but seemingly partial amenability to mathematization, i.e. to metarationalization, represented as a (compound or elementary) informal "O-predicate", located on the **O-level**;
- **metarational**: a quasi-formal predicate in 'Natural IDL, NIDL', i.e. an "A-(level) predicate", located on the **A-level**;
- **rational**: a conjunction of formal abstract "E- predicates" in NIDL  $\equiv$  the A-predicate so represented, located on the **E-level**;
- **mathematical**: the mathematical NIDL-expression concretizing an abstract E- predicate, located on the **M-level**.

For verifying or falsifying an expression, intellectually or automatically, all its components must be rational or mathematical.

Thereby holds: The meaning of an invention = that of a CTCI = that of an ETCI. Yet, an ETCI is often only more sophisticated/complicated modelable<sup>b)</sup>, as embodying at least one exceptional EcrC – but this is often axiomizable into Rationality<sup>A.4)</sup>.

### III. The CAFC's Failing about ETCIs' Precedents & Summary of the Supreme Courts' US-SPL-Refinement.

The CAFC recognized early this century, with the broad advent of ETCIs, increasing vagueness of ETCI patents. Yet, it did not become aware that this is an unavoidable consequence of these ETCIs' needs of their specifications' pragmatics<sup>3.c)</sup> to be of a finer grain of notional resolution than the specifications' semantics of CTCIs. Instead, it misinterpreted it as caused by a kind of 'ductus deficiency' of the conceptualization driven Supreme Court's 'outer shell' specification, and hence failingly replaced it<sup>4.a)</sup> with a presumably more precisely 'literalistic'<sup>314)</sup> ductus of specifying inventions – thereby vastly reducing any robustness<sup>b)</sup> of ETCI patents.

The Supreme Court evidently recognized the CAFC's fundamental error about its ETCIs' specifications<sup>314)</sup> – namely the CAFC's assumption that classical SPL pragmatics<sup>3.b)</sup> is not too coarse in its notional resolution for precisely specifying ETCIs, not being aware of ETCIs' potential threats of the US NPS due to their excessive preemptivity<sup>c)</sup> – rejected a series of such literalistic CAFC decisions which it deemed too tightly focused on CTCIs for specifying ETCIs as needed by 35 USC/SPL (i.e. comprising their future perspectives/uncertainties/risks), and required the CAFC's notional U-turn as to ETCIs' SPL satisfaction tests (i.e. paving the way for their adjustments to future cognitions). I.e.: It required that it performs, in its precedents about ETCIs, the so identified SPL-paradigm refinement.

For guiding all US institutions to this objective – to support/foster innovativity, not hampering it – i.e. for explaining how to correctly focus (in this specific sense) ETCIs' SPL satisfaction tests, the Supreme Court reinterpreted/-fined 35 USC §§ 101/102/103/112 in its line of 6 unanimous decisions<sup>1.b)</sup>. In particular, it comprises in *Alice* its truly Solomonic '**PE-analysis**'. This analysis – I repeat: '**truly Solomonic**', as substantively fostering innovativity and excluding excessive or even total preemptivity<sup>c)</sup> by minimally invasive interference with §101 for investors' & inventors' sake – clearly requires that its PE-test determines for any ETCI (by definition being <sup>n</sup>PE, as 'per se' totally preemptive and thus potentially jeopardizing the whole US NPS if patented, unless appropriately 'fenced in' as achieved in *Alice*) the **minimum** SPL requirement to be met for transforming it by an application (of it) into PE. This *MBA*-framework guidance – difficult to grasp, i.e. to decode/decipher it – enables the ●initially indicated 3 objectives<sup>1.a)</sup>, and thus ●consistency/predictability in applying SPL. This is more than just unexpected trend-setting ...

In slightly more detailed, the Supreme Court stressed in its 6 framework decisions that its SPL reinterpretation refines the meaning of SPL for improving ETCIs' patent protection and it hence requires accordingly refining, in the US, SPL's notional resolution. According to US Constitution no US institution is therefore entitled to ignore – except other courts – any part of this Supreme Court's framework that ex- or implicitly requires this notional refinement of its SPL meaning, i.e. to reduce, omit, or even refuse this refinement.

The CAFC's implicit refusal to accordingly refine the meaning of SPL<sup>[e.g.415]</sup> – never explicitly stated – is of particular delicacy as it catastrophically worsens ETCIs' patent protection<sup>[e.g.415]</sup>, thus diametrically contradicting the Supreme Court's clear socioeconomical requirement that it explicitly stated in *Mayo*.

<sup>4</sup> .a probably without being aware of it

.b An ETCI is called '**markedly robust**' if it is *legally* absolutely correct – which is trivial for the IES to assess as ETCI-independent – and *materially* alias *factually* correct as by the Supreme Court's *Teva* decision required. If the latter holds for all material definitions, then this ETCI is called '**absolutely robust**'. Both qualities may by the IES automatically be inquired from its user for and derived from COM(ETCI). As a patent owner would usually have the opportunity to convince a district court judge to meet these *Teva* requirements, he/she then has a chance to achieve an 'absolutely robust' confirmation from this judge, or this ETCI's examiner or USPTO's administrative judge, or ..., or CAFC judge.

.c An intuitive understanding of the notions '**preemptivity**' and its being '**total**' or '**partial**' has been conveyed here above – but it evidently is somewhat tricky. These terms' precise meanings are nevertheless precisely definable, as Section V shows.

.d This *Alice* mission, clearly defined by the Supreme Court, will disruptively render obsolete how the PE problem has hitherto been discussed by the CAFC, USPTO, and the entire patent community. This mission indeed achieved its that dramatic simplification and practical efficiency increase, as the Supreme Court perhaps expected to emerge from its *MBA* framework.



#### IV. Summary of the BGH's G-SPL-Refinement – It Implies the Rationally Highest Notional Resolution of SPL.

The BGH's key G-SPL-refinement is established by its '*Gegenstandsträger*' decision<sup>1.b)</sup>. It introduces into the classical G-SPL the semiotically<sup>3.b)</sup> nonevident key pragmatics of a '*single independent thought*<sup>5.a-d)</sup>. Logically, it complements its '*Spannschraube*' decision<sup>1.b)</sup>. Both decisions together enable rationally defining the meanings of all in G-SPL fundamental notions, i.e. of "CTCI & ETCI", of their "specification", "inventivity", "scope", ..., and rationalizing & mathematizing them all. With classical SPL this is impossible – as it is notionally too coarse.

This BGH-notion of a 'single independent thought' is fine enough for modeling by it *Biosig* (i.e. its notion of an inventor's creation<sup>d)</sup>), *KSR* (its independence of the known of various kinds), *Bilski/Myriad/Alice* (their resp. consistencies as to various socioeconomic legal order principles). In total this shows that any invention satisfying refined US- or G-SPL is made up of a finite set of single independent thoughts.

Next, unlike the Supreme Court's SPL-precedents refinement, the BGH's SPL-refinement deals with CTCIs. Hence, it does not address the fundamental problem in patenting ETCIs, their potentially being excessive/totally preemptive and then – if patented – threatening the G-NPS. Due to its evident fundamentality, ● it is notionally much simpler than the US SPL-refinement, and ● the set of notional resolutions of SPL-refinements that the BGH in its '*Gegenstandsträger*' decision implicitly defined comprises logically all ETCIs' finest resolutions.

This set of all CIs' finest notional resolutions, defined by the so refined G-SPL, trivially implies all separation line definitions (defined by the refined US-SPL alias *MBA*-framework) between PE CIs and <sup>n</sup>PE CIs. I.e.: The notional refinement of the G-SPL hence comprises the notional refinement of the *MBA*-framework/US-SPL – as yielding US-SPL ::= {all CIs satisfying refined US-SPL} ⊆ {all CIs satisfying refined G-SPL} =: G-SPL<sup>e)</sup>/3.a).

<sup>5.a</sup> It and its several semiotically<sup>3.b)</sup> similar preceding BGH decisions are rooted in Plato's/Socrates' realm of ideas, philosophically/linguistically contemplating "**atomicity**" of a cognition/perception/meaning/thinking/property/item/... This fundamental building block of thinking is logically indispensable for notionally founding what an elementary incremental item of creativity is – an elementary creative concept, as it also *KSR* implicitly and *Mayo/Alice* explicitly recognize. Analytic Philosophy renders such an evidently necessary /indispensable cognition (i.e. for which no rationally<sup>3.c)</sup> meaningful alternative exists as it cannot be found by rationally refining something known or by such reasoning about whatever<sup>4.a)</sup> correct as rationally meaningful in an axiomatic sense, thus mathematizable.

Thereafter this (logically absolutely resilient) epistemological correctness notion – being inevitably necessary only, i.e. not requiring sufficiency – has been tightened by the broad public in daily life thinking about the physical world, in favor of the notion 'reproducible under laboratory (i.e. absolutely 'clean') conditions'. Although in many rational/mathematizable situations meaningless<sup>b)</sup> this 'necessary and sufficient' axiomatic correctness notion is today often erroneously felt to be indispensable for any science – also by the patent communities, fiercely claiming that patent law is not a science<sup>2.b)</sup>. This is true for most of 35 USC, yet nonsense for its SPL – i.e. since Kant<sup>2.b)</sup>, confirmed by Analytic Philosophy<sup>130,218)</sup>, about any doubt.

The fundamentality of this notion 'atomicity of an idea' – in a more materialistic KR called '**elementarity**' of the concept rationally modeling/describing/defining this notion – implies that it scientifically embodies for any item of an ETCI its finest thinkable/definable/describable/modelable/.../KR-able' SPL-relevant refinement and its being required, especially for its properties' KRs of all its rational concepts, comprising this ETCI's 'elementary concepts' and its 'as a whole' concept.

<sup>b</sup> E.g. in SPL, where – as to the notion of creating and then rationally describing an invention, i.e. the substantive alias material part of SPL – this reproducibility requirement<sup>a)</sup> does not exist.

SPL's reproducibility requirement, as comprised by 35 USC §112, evidently serves a quite different purpose of SPL, namely primarily the 'enabling' purpose (as it usually is abbreviated, i.e. communicating to the pposc<sup>1.d)</sup> the 'makability' of the invention). And this is the fulfillment of one of the many administrative obligations versus the public to be obeyed by the inventor, i.e. part of Procedural Patent Law, and not of Substantive Patent Law.

<sup>c</sup> The fundamental Kantian insight<sup>2.b)</sup> coming down to "1 E-crC models 1 independent thought" – put into FSTP language and obeying<sup>2.b)</sup> – results from mathematically modeling<sup>3.b)</sup> the BGH's *Gegenstandsträger* decision in a CTCI's nonobviousness case (after several similarly justified nonobviousness decisions), which then went completely unnoticed by the German patent community.

<sup>d</sup> Due to *Gegenstandsträger*, the *Spannschraube* decision's cognition-theoretical determining the meaning of an invention and its notions in its patent specification and claim interpretation, is of a finer notional resolution than the Supreme Court's *Biosig* decision.

<sup>e</sup> Due to the clear scientific determination of this separation line based on the *MBA*-framework, it is very unlikely that the BGH will ignore part of its definition if deciding e.g. a DNAtch-ETCI's PE/<sup>n</sup>PE – as CAFC & USPTO hitherto did<sup>145)</sup>. This namely would create for the German NPS the very logical unavoidableness of the unlimited preemptivity driven socioeconomic threats that the Supreme Court has previously recognized for the US NPS and eliminated (in favor of inventors and investors) through its SPL-framework.

**Hence, here and in what follows, the adjective 'refined' is for convenience often left away – unless needed.**

V. The US-SPL-based FSTP-Test – Enabling Recognizing G-SPL’s Same Refinability.

The FSTP-Test models by AI and performs for an ETCI •firstly its refined claim interpretation<sup>6.a)</sup> determining its COM(ETCI) and •secondly its refined claim construction<sup>7.a)</sup> using this COM(ETCI), both as required by the MBA-framework.

<sup>6.a</sup> The 4 FIGs in both ftns<sup>6/7)</sup> are introductorily and in more detail explained in<sup>[391]</sup>, but are here focused on the US/G-refinement aspects that are not at all touched there. Vice versa, there the US-SPL is clarified by its stepwise refining starting from classical/non-refined claiming – while here classical refinement is not at all touched.

Yet, there both kinds of refinements have already been encountered, the ‘claim interpretation refinement’ and the ‘claim construction refinement’, both achieved by the O/A/E-refinement (here in ftn<sup>6</sup> and ftn<sup>7)</sup>, just as their both KR’s – <sup>rat</sup>KR and <sup>mat</sup>KR – fully understood by both parsers of IDL<sup>[e.g.372]</sup>, <sup>rat</sup>IDL and <sup>mat</sup>IDL. Thereby the mathematical axiomization of all elementary inCn’s (their rational axiomization, though possible, is not considered here) trivially occurs only in <sup>mat</sup>CI/CC – <sup>rat</sup>CI/CC showing the total scene – whereby <sup>rat</sup>matCC requires the resp. preceding <sup>rat</sup>matCI.

From US-SPL  $\subseteq$  G-SPL (see Section IV) does not follow the contrary. But only those ETCIs  $\in$  G-SPL are also  $\in$  US-SPL that pass the resp. <sup>rat</sup>matCC – which will indeed hold also for the G-SPL, with all likelihood<sup>5.f)</sup>, sooner or later (see<sup>A.5)</sup>).

**<<sup>rat</sup>CI ::= rational claim interpretation in: rational KR = post-MBA-KR = refined claiming KR<sup>rat</sup> = FSTP KR<sup>rat</sup>> input  $\wedge$  begin:**  
 ETCI is a set of 'O-crC0S<sup>mphys</sup> ::= {O-crC0n ::= IDL-sentence, disclosed by O-MUIS0n<sup>mphys</sup> ::= {n-IDL-sentences<sup>mphys</sup>, 1 ≤ n ≤ N}  $\cup$   
 $\cup$  A-crC0S<sup>mrat</sup> ::= {A-crC0n ::= IDL-sentence, disclosed by A-MUIS0n<sup>rat</sup> ::= {n-IDL-sentences<sup>rat</sup>, 1 ≤ n ≤ N}  $\cup$   
 $\cup$  E-crC0S<sup>rat</sup> ::= {E-inC0k  $\vee$  E-ninC0k ::= IDL-sentence, disclosed by E-MUIS0k<sup>rat</sup> ::= {k-IDL-sentences<sup>rat</sup>, 1 ≤ k ≤ K}.'  
 1) if [ $\forall$ (E-crC0nk  $\vee$  E-ncrC0nk) are lawfully disclosed as???) then go on;  
 2) If [ $\{A-crC0n = \bigwedge_{1 \leq k \leq K} (E-inC0nk \vee E-ninC0nk), \forall 1 \leq n \leq N\}$  is enablingly disclosed as???) then go on;  
 3) If [COM(ETCI) is (E-definite  $\wedge$  E-complete  $\wedge$  uniquely defined  $\wedge$  useful) as???) then go on;  
 output 'COM(ETCI)<sup>rat</sup> satisfies SPL if passes FSTP-Test in KR<sup>rat</sup>  $\wedge$  stop.

**<<sup>mat</sup>CI ::= mat claim interpretation in: mathematical KR = post-MBA-KR = refined claiming KR<sup>mat</sup> = FSTP KR<sup>rat</sup>> input  $\wedge$  begin:**  
 ETCI is a set of 'O-crC0S<sup>mphys</sup> ::= {O-crC0n = IDL-sentence, disclosed by O-MUIS0n<sup>mphys</sup> ::= {n-IDL-sentences<sup>mphys</sup>}  $\cup$   
 $\cup$  A-crC0S<sup>mrat</sup> ::= {A-crC0n = IDL-sentence} disclosed by [A-MUIS0n = IDL-sentences<sup>rat</sup>}  $\cup$   
 $\cup$  E-crC0S<sup>mat</sup> ::= {E-inC0k  $\vee$  E-ninC0k = IDL-sentence disclosed by E-MUIS0n<sup>rat</sup> ::= {k-IDL-sentences<sup>rat</sup>, 1 ≤ k ≤ K}  $\cup$   
 $\cup$  E-crC0S<sup>mat</sup>\_DEF ::= {E-inC0k  $\vee$  E-ninC0k axiomized mathematically by IDL-sentences<sup>math</sup>, 1 ≤ k ≤ K}.'  
 1) If [ $\forall$ (E-crC0nk  $\vee$  E-ncrC0nk) are lawfully disclosed as???) then go on;  
 2) If [ $\{A-crC0n = \bigwedge_{1 \leq k \leq K} (E-inC0nk \vee E-ninC0nk), \forall 1 \leq n \leq N\}$  is enablingly disclosed as???) then go on;  
 3) If [COM(ETCI) is (E-definite  $\wedge$  E-complete  $\wedge$  uniquely defined  $\wedge$  useful) as???) then go on;  
 output 'COM(ETCI)<sup>mat</sup> satisfies SPL mathematically proven if passes FSTP-Test in KR<sup>mat</sup>  $\wedge$  stop.

<sup>7.a</sup> The following second part of the FSTP-Test, i.e. its claim construction<sup>5.f)</sup>, exposes the US-SPL structure as caused by the MBA-framework: Its lines 4-6 model the main part of its PE-test and lines 7-9 its finalization check.

It requires some explanations – that are provided by<sup>A.5)</sup> – as its lines 7+8 hitherto are nowhere discussed, and the remaining lines never as by the Supreme Court’s Alice decision required, which is the reason for the CAFC’s and USPTO’s permanent releasing legally erroneous decisions. Thus, •as to lines 7+8 AI needs them for enabling/facilitating the correct rationalization/mathematization of the claim construction for the COM(ETCI) provided by the preceding claim interpretation, and •as to the optional input statement in line 5 it is evident that it is meaningful only if the ETCI’s non-anticipation by a ‘Reference Set, RS’ is to be tested (also discussed in<sup>A.5)</sup>).

**NOTE:** The FSTP-Test is today already exactly the same in the US and Germany, i.e. is of the equal meaning<sup>A.5)</sup>.

**<sup>rat</sup>CC ::= input 'COM(ETCI)<sup>rat</sup>  $\equiv$  O-/A-/E-inC0S'  $\wedge$  begin:**  
 4) if [COM(ETCI) comprises an nPE TT0 as???) then go on;  
 5) if [COM(ETCI) is an application of TT0’s nature as???) then go on;  
 6) if [COM(ETCI) is significantly more than TT0 as???) then go on;  
 7) if [COM(ETCI) comprises only independent E-inC0nk as???) then go on; [input COM(RS)<sup>rat</sup>  $\equiv$  O-/A-/E-inCnS, 1 ≤ n ≤ N]  
 8) if [COM(ETCI) has a definite A/N-Matrix over RS as???) then go on;  
 9) if [COM(ETCI) is of semantic height over RS is ( $\geq 1/\geq 2$  if  $AC^{1/2 \geq 2} \in RS$ ) as???) then go on;  
 output 'COM(ETCI)<sup>rat</sup> satisfies SPL'  $\wedge$  stop.

**<sup>mat</sup>CC ::= input 'COM(ETCI)<sup>mat</sup>  $\equiv$  O-/A-/E-inC0S'  $\wedge$  begin:**  
 4) if [scope(E-crCSTT0)  $\neq$   $\Phi$ ] then go on;  
 5) if [ $\{I_{TT0} \text{ scope}(E-crCSETCI) \subseteq \text{scope}(E-crCSTT0)\}$ ] then go on;  
 6) if [ $\{E-crCSAlice \neq \Phi\}$ ] then go on;  
 7) if [ $\forall \{E-crC0nk \mid 1 \leq n \leq N \wedge 1 \leq k \leq K^n\}$  are independent of each other] then go on; [input COM(RS)<sup>mat</sup>  $\equiv$  O-/A-/E-inCnS, 1 ≤ n ≤ N]  
 8) if [ $\forall^{i,n,k} \exists \Delta^{i,n,k} ::= \text{if } (E-crCink = E-crC0nk) \text{ 'A' else 'N'}$ ] then go on;  
 9) if [ $\sum_{1 \leq n \leq N} (\min_{v^i \in \{1, \dots, i\}} |\{<\Delta^{i,n,1} = \text{"N"}, \dots, \Delta^{i,n,Kn} = \text{"N"}>\}|) \geq 2$ ] then go on;  
 output 'COM(ETCI)<sup>mat</sup> satisfies SPL'  $\wedge$  stop.

The FSTP-Test has been developed in Berlin in the FSTP-Project, concurrently to and such as to mirror both Highest Courts’ notional SPL-refinements as required by the Supreme Court’s framework and by the BGH accordingly enabled. Each of both SPL refinements’ rationalizability & mathematizability (as shown by the resp. boxes in ftns 6 & 7) represent a priori the FSTP-Test’s scientificity<sup>3.c)</sup> – here modeled by AI<sup>1.a)</sup>, as postulated by Kant<sup>2.b)</sup>.

Thereby the AI-based FSTP-Test's **claim interpretation**<sup>6.a)</sup> checks whether this ETCI meets the CAFC's blurring '*definiteness*' requirement – much clearer: '*well-definedness*' requirement, this term's meaning being that from Mathematics – as stated by §112, reinterpreted/refined by *Biosig*, and its **claim construction**<sup>7.a)</sup> checks whether the so determined COM(ETCI) meets the '*patent-eligibility*' & '*usefulness*' & '*novelty*' & '*nonobviousness*' requirements as stated in §§101/102/103, reinterpreted/refined in *KSR/Bilski/Mayo/Alice*.

I.e., the Supreme Court's requirements stated by its *MBA*-framework to be met by the refined US-SPL-satisfaction test and accordingly refined ETCIs serve the purpose to enable protecting an ETCI by patents more robustly than without this refinement – more precisely: markedly robust<sup>4.b)</sup> – and in a way which would not threaten to put the US "National Patent System, NPS" into jeopardy due to ETCIs' potentially unlimited preemptivity.

In summary: While it is true that both Highest Courts didn't spell out explicitly how to operationally achieve these (with many ETCIs unavoidable) SPL-refinements, FSTP publications have shown that the Supreme Court's *MBA*-framework is so precise and complete that its refinement's axiomizing<sup>A.4)</sup> represents US-SPL's unique rational – i.e. scientific – meaning, thus enabling consistent & predictable precedents over all ETCIs.

## **6 ANNEXes as to the AI Support of any ETCI's (Semi-)Automatic FSTP-Test for Its SPL-Satisfiability**

The following explanations of and comments on AI-support in dealing with innovation/patenting issues – not commonly known by patent communities and/or on background issues required by the preceding elaborations – are listed in the approximate sequence as encountered in reading this stuff. This sequence **facilitates** grasping the refinements of the paradigm a classical SPL is based on, **but** has only little to do with a systematic introduction and clarification of these issues.

**DISCLAIMER: These explanations/comments and the preceding ftns are individually & totally not exhaustive and not on textbook level**<sup>[182]</sup>.

**A.1 As to ETCIs.** ETCIs have properties unknown from and additional to CTCIs (= Classic Technology Claimed Inventions) – namely partially being invisible/intangible and/or of unknown alias metaphysical functionality. These properties are partially real and partially fictional/hypothetical. They hence are of 'finer notional resolution' than those of CTCIs. They thus indispensably require much more scrutiny in their definitions than in CTCIs. Otherwise they inevitably potentially threaten putting their established NPSES in jeopardy – hitherto unaware of this threat. They are for the first time problematized by the Supreme Court's pertinent 'framework' alias '*MBA*-framework'.

**A.2 The Solution of the PE-Problem by AI.** The Supreme Court recognized already by its *MBA*-framework decisions the untenability of the CAFC's/USPTO's (erroneous) assumption, the notional granularity of the classical SPL interpretation for CTCIs sufficed for predictably/consistently/rationally/consensually deciding also ETCIs to be PE or <sup>o</sup>PE. This assumption contradicts ETCIs' just indicated interpretational deficiency: E.g., the Supreme Court's *KSR* (obviousness-)decision shows (for the first time and only in hindsight) that this classic/coarse notional granularity potentially implies the inseparability of the notion of an ETCI being obvious/anticipated and of its being <sup>o</sup>PE.

AI has by today shown scientifically/mathematically: Without notionally refining this CI's KR, eliminating this notional inseparability with it is often impossible – as evidenced by Section V.

Nevertheless, the CAFC and USPTO (here irrelevant) still cling to their misbelief that this notional inseparability is eliminatable by its incomplete interpretation of the Solomonian PE analysis that the Supreme Court provided in its *Alice* opinion (therein page 5) – of the specification of which it ignored textual parts<sup>[419]</sup> decisive for its meaning.

The Supreme Court repeatedly required from the CAFC – by rejecting all non-semiotic SPL-satisfaction tests that it suggested, e.g. the TSM-/MoT-/Indefiniteness-tests – not to ignore ETCIs' needs of adjusted alias rationally refined recognition-capabilities of the US-SPL's SPL-satisfaction. The implicit but stringent CAFC-refusal of the Supreme Court requirement could not be tolerated by its Constitutional responsibility, as it correctly recognized that the future wealth of the US society crucially depends on business with innovation-based products and hence their ETCIs.

**A.3 AI-based ETCIs' SPL-satisfaction Testing Enables Their Semi-Automatable Robustness Handling.** As indicated already in<sup>e.g.433)</sup>, the practically extremely advantageous impacts that the Supreme Court's *MBA*-framework together with AI exerts on SPLs' and ETCIs' KR is striking: One of the most important advantages is that leveraging on this *MBA*-framework by AI enables semi-automatably designing/developing/specifying/testing (to different extents) ETCIs to be a priori (markedly) robust.

This *MBA*-framework namely requires and is achieved by structuring this patent(-application)'s design and specification, its ETCI, and its SPL- alias FSTP-Test (see Section V) just as System Design also requires<sup>[2]</sup>. The reason for the holding of this achievement is the indispensability of such a structure for the ETCI's, patent(-application)'s, and their rationally refined SPL-Test's dependable comprehension. Pre-FSTP-Project this has not been noticed by this ETCI's inventor and/or its patent (-application)'s drafter, as usually performed subcortically by him/her.

This implies making this ETCI-design/specification subject of the main principles of System Design<sup>[278,313]</sup>, in particular of the principles "**separation of concerns**" by the ETCI's N ETCI-elements, and of the "**use-hierarchy**" within their COM(ETCI), i.e. of the EcrCs/EncrCs defining their N properties (see Section V).

In the Supreme Court's *Alice* decision, this use-hierarchy is implicitly referred to, refined, and required to be used — which is also often not noticed — for describing the notional resolutions needed for drafting an “outer shell” specification of an ETCI, in<sup>[314]</sup> stated to be the paradigm of the Supreme Court's specifications of inventions. It<sup>[314]</sup> shows that the CAFC (thinking in terms of CTCL specifications) replaced the outer shell paradigm with its “literalistic” paradigm and thus inevitably got into the ‘rational nirvana’ resulting in the vagueness complaint<sup>[416]</sup> about the CAFC/USPTO.

The preceding paragraphs provide the reason that the ITtech community is a priori basically familiar with *MBA*-framework-based specifying ETCIs, and why the non-ITtech patent-experts currently must undergo the paradigm-refinement that the IT community encountered during the 70s — that made it suffer then from the same troubles that today the non-ITtech patent experts try to attribute to the Supreme Court by complaining about its *MBA*-framework) (erroneously as caused by cognitive stumbling blocks). Also the formal (i.e. mathematized) specification technique for ETCIs presented will be much easier to grasp by this ITtech group.

**A.4 AI Enables Axiomizing ETCIs' SPL-based Knowledge of some KR.** The purpose of this very preliminary summary is solely to indicate the direction of notionally proceeding when mathematizing by AI the SPL and its ETCIs.

In any patenting question, Metaphysics may be seen as a notionally sparse (as of ‘finite first order logic, FFOL’) and ‘mathematically open’ universe embedded in the notionally dense and ‘mathematically closed’ universe of ‘Transcendence’. A detailed separation of the latter from the former universe is not needed here, as the SPL-framework deals with only metaphysical (i.e. inherently rational) solutions of D/PE/PA-problems that are subject to granting optimal freedom to mankind's innovativity (i.e. ETCI creation) in patenting without putting the NPS in jeopardy by granting patents to totally-preemptive ETCIs – i.e. to ETCI°s for which it cannot be excluded that ETCI\*s exist that are anticipated by ETCI° modulo(some Δ) as in Section V. By this separation of meanings, the two notions ‘natural phenomenon’ and ‘abstract idea’ of an ETCI, each representing a creative concept (i.e. a part) of its ETCI's meaning, are metaphysical – hence potentially eventually rationalizable, i.e. in particular free of any transcendence.

First ‘rationalizing’ many notions of metaphysics by their ‘axiomizing’ occurred without mankind being aware of it — when our primates started communicating verbally. Much later Kant, ... axiomized<sup>[369]</sup> the originally notionally still ‘exceptional crC, XcrC’-notions of metaphoric ‘natural numbers’ to the set of rational numbers ‘1,2,3,...,n,..., nXcrC’. He/They thereby started in the late Enlightenment era (Aufklärung), which led to Analytic Philosophy<sup>[313]</sup> in the late 19<sup>th</sup> century (Frege<sup>[130]</sup>, ...). Mathematics has broadly used axiomizing since the early 20<sup>th</sup> century, and IT System Design<sup>[2]</sup> in the mid-70s expanded it to ‘problem structuring’ by the “use-hierarchy” and “separation of concerns”<sup>[278,313,441]</sup> — for enabling safety in the solutions for many real-life problems’. For the foreseeable future, this will be the only method enabling rationally thinking about transforming parts of an entity's metaphysics into their rationality, e.g. in SPL enabling first steps to this end by digitizing/axiomizing the Supreme Court's “Outer Shell”<sup>2.a)</sup> <sup>[314,332,334]</sup>: These principles developed by IT System Design are only adapted here as needed for refining an ETCI's O-KR into its O-/A-/E-/M-KR — for any ET area whatsoever, e.g. ITtech, Biotech, ...

The term ‘model’ of an XcrC indicates that it describes the meaning of this XcrC by an IDL-sentence of vague (i.e. nonrational) meaning. It thus encapsulates into this sentence all hitherto ‘metaphysics’ that this XcrC comprises — thus potentially transforming it into rationality. Evolutionarily, originally, only few nXcrCs had been known, while today many of them are axiomized XcrCs, i.e. resulted from a notional metamorphosis of novel and/or vague XcrCs to novel and rational nXcrCs. E.g. complex numbers, or parts of wheels or bodies or ..., today being nX-notions. As CTCLs know no such axiomizing of metaphysical meanings they comprise no exceptional EcrCs.

**A.5 AI Confirms the CAFC's *Exergen* & *Vanda* Decisions – although They Both Miss their Points.** This AI-ANNEX 5 might have started with briefly recapitulating – of an ETCI's ‘definiteness’, ‘patent-eligibility’- and ‘nonobviousness’-subtleties that the Supreme Court's *MBA* framework indispensably must scientifically imply<sup>8.a)</sup> – some of those US-SPL intricacies that at least part of the CAFC (of the USPTO not to speak) repeatedly ignores as its refuses refining the classical notional resolution of SPL. As indicated by several preceding Sections of this short research report, any such omission is a legal error. Yet, unfortunately I'm running out of time and thus have to postpone such elaborations – perhaps until<sup>[82]</sup>. Instead, this short report relies on the light of such AI based clarifications generated by the many preceding FSTP publications dealing with the *MBA* SPL-framework (see the FSTP Reference List below).

I.e., this A.5 finally explains why with both above quoted patents it is much easier to decide by means of the FSTP-Test their satisfying US-SPL than by the at least vague opinions – for not to say ‘missing the point’ – of the legally correct CAFC decisions, in particular as both decisions' dissents are fatal legal errors (identified by the below 2 bullet points. They both namely do not refine the coarse meaning of the Supreme Court's *Mayo* term ‘directed to’. While the latter is entitled to use it in its opinions without becoming precise/rational – as these are supposed to be ‘metarational’ (vulgo: ‘direction pointing’ alias ‘metaphysical’) – the CAFC is supposed to eliminate any legal vagueness, as the Supreme Court explicitly reminded it<sup>9)</sup>. The FSTP-Project resolved this problem by developing the legally fully rational/scientific/mathematical FSTP-Test and (repeatedly publishing it).

Anyway: The atomic meaning of ‘is it directed to’ is simply ‘does it comprise an exceptional concept’ – which evidently is atomic and much more precise than the murky ‘directed to’. Thus, the following 2 bullet points identify, in both CAFC decisions, the legal (almost) truth and (definite) faults.

<sup>8.a</sup> Justice Breyer<sup>[69]</sup>: “Different judges can have different interpretations. All you're getting is mine, ok? I think it's easy to say that Archimedes can't just go to a boat builder and say, apply my idea [i.e. the natural phenomenon of a boats' water displacement] .... Everybody agrees with that. But now we try to take that word “apply” and give content to it. And what I suspect, in my opinion, *Mayo* did and *Bilski* and the other cases, is to sketch an outer shell [i.e. framework] of the content, hoping that the experts, you and the other lawyers and the CAFC, could fill in a little better than we had done the content of that shell...”  
[highlighting and annotation added]



- *Exergen's* ETCI-definition, COM(ETCI), does comprise the exceptional 'elementary creative concept, EcrC0', defined to be 'the relation between temporal-arterial temperature and core temperature' and e.g. the thereof independent non-exceptional EcrC0 'a method of temperature measurement' (opinion, page 12) being an inventive<sup>Alice</sup>-concept. With these 2 EcrC0s the FSTP-Test proves rationally (or mathematically and then automatically) that *Exergen's* ETCI satisfies SPL. The dissenting opinion is wrong as considering this ETCI's whole set of EcrC0s as being the only inventive concept.
- *Vanda's* ETCI-definition, COM(ETCI), does comprise the exceptional EcrC0 'reducer of QTc prolongation risk' and e.g. the thereof independent non-exceptional EcrC0 'patient of CYP2D6 poor metabolizer genotype' (opinion, page 4) being an inventive<sup>Alice</sup>-concept. With these 2 EcrC0s the FSTP-Test proves rationally (or mathematically and then automatically) that *Vanda's* ETCI satisfies SPL. The dissenting opinion is wrong as also considering its whole set of EcrC0s as being the only inventive concept.

The final sentence under both bullet points indicate the by far too coarse notional resolutions of the dissenting opinions.

**A.6 TOTAL SUMMARY: AI in 35 USC/SPL Pays! Due to the Supreme Court's Framework and FSTP-Technology!**

**The FSTP-Project's Reference List**

FSTP = Facts Screening/Transforming/Presenting (Version of 17.04.2018<sup>1</sup>)

Most of the FSTP-Project papers below are written in preparation of the textbook<sup>(182)</sup> – i.e. are not fully self-explanatory independent of their predecessors.

[2] AI: "Advanced Information Technology" alias "Artificial Intelligence Technology" denotes cutting edge IT areas, e.g. Knowledge Representation(KR)/ Description Logic (DL)/ Natural Language (NL)/ Semantics/ Semiotics/ System Design... just as MAI & MKR: "Mathematical Artificial Intelligence & Mathematical Knowledge Representation", the resilient fundament of AI and "Facts Screening/Transforming/Presenting, FSTP-Technology, both developed here.— currently most of it still being in 'status nascentium'<sup>(192)</sup>

[5] S. Schindler: "Math. Modeling SPL Top-Down vs. Bottom-Up", Yokohama, 2012<sup>1</sup>

[9] a) S. Schindler, "Patent Business – Before Shake-up", 2013<sup>1</sup>.  
b) S. Schindler, "Patent Business – Before Shake-up", 2013<sup>1</sup>.  
c) S. Schindler, "Patent Business – Before Shake-up", 2018, to be publ. soon.

[64] B. Wegner, S. Schindler: "A Mathe. Structure Modeling Inventions", Coimbra, CIMM-2014<sup>1</sup>.

[69] USSC, Transcript of the oral argument in *Alice Corp. v. CLS Bank*, 31.03.2014<sup>1</sup>.

[91] B. Wegner, S. Schindler: "A Math. KR Mod. for Claim Inter. & Con.", in prep.

[113] S. Schindler: "The CAFC's Rebellion is Over – The USSC, by *Maya/Biosig/Alice*, ...", publ. 07.08.2014<sup>1</sup>.

[130] G. Frege: "Funktion und Begriff", 1891.

[157] USPTO: "2014 Int. Guidance on Pat. Subj. M. Eli. & Examples: Abs. Ideas"<sup>1</sup>.

[160] S. Schindler: "The USSC *Maya/Myriad/Alice* Decisions, The PTO's Implementation by Its IEG, The CAFC's *DDR & Myriad* Recent Decisions", publ. 14.01.2015<sup>1</sup>, its short version<sup>1</sup>, and its PP presentation at USPTO, 21.01.2015<sup>1</sup>.

[182] S. Schindler: "Innovation Theory and Mathematic AI for Patent Technology", Textbook, in prep.

[218] B. Russel: "Principles of Mathematics", see also Wikipedia.

[278] a) D. Parnas: Personal Communications, Berlin, 1975.  
b) D. Parnas: "Software Fundamentals", ADDISON-WESLEY, 2001.

[296] S. Schindler: "A Com. on the 2016 IEG Update – Suggesting More Scrutiny", publ. on 09.06.2016<sup>1</sup>.

[312] R. Bahr, USPTO: MEMO as to "Recent Sub. Matter Eligibility Rulings", 14.07.2016<sup>1</sup>.

[313] a.) Wikipedia: "First-order logic", b.) Wikipedia: "Prädikatenlogik", c.) Wikipedia: "Analytic Philosophy", d.) Wikipedia: "D. Parnas".

[314] J. Duffy: "Counterproductive Notice in Literalistic v. Peripheral Claiming", U. of Virginia, June 2016<sup>1</sup>.

[332] S. Schindler: "The Notion of Claiming in SPL – pre&post Aufklärung", p. 10.10.2016<sup>1</sup>

[335] T. Kuhn: "The Structure of Scientific Revolutions", UCP, 1962, see also Wikipedia

[348] B. Wegner: Invited paper, "Innovation, knowledge representation, knowledge management and paper", "Math. Modelling class: math. thinking", Corfu, Ionian University, 22.11.2016<sup>1</sup>

[349] B. Wegner: Invited of a Robust Claim Interpretation and Claim Construction for an ETCI – Adv. Steps of a "Mathematical Theory of Innovation", Bangkok, ICMA-MU, 17.-19.12.2016<sup>1</sup>

[350] S. Schindler: "The IES Qual. Machine: Prototype Demo", GIPC, New Delhi, 11.-13.01.2017.

[351] B. Wegner: "FSTP – Math. Assess. of ETCIs' Quality", GIPC, New Delhi, 11.-13.01.2017.

[352] D. Schoenberg: "The IES Prototype Qualif. Machine", GIPC, N New Delhi, 11.-13.01.2017

[353] S. Schindler: "The Lesson to be Learned from the US PE Hype", publ. 11.12.2016<sup>1</sup>

[354] S. Schindler: "An Amazing SPL Cogn.: Any Pat. Appl. is Draft. Tgt. Rob.", publ. 31.01.2017<sup>1</sup>

[355] S. Schindler: "An Ama. SPL Cogn.: Any Pat. Appl. is Draft. Tot. Rob.", publ. 07.03.2017.

[360] IA (Internet Association<sup>1</sup>): "Letter to the President-elect Trump", 14.12.2016<sup>1</sup>

[361] J. Straus: "Intellectual Property Rights and Bioeconomy", Journal of IP Law & Practice, 14.07.2017

[362] USPTO/PTAB: *Ex parte* Schulhauser, 2016<sup>1</sup>

[363] S. Schindler: "The PTAB's Schulhauser Dec. is Untenable", publ. 08.03.2017<sup>1</sup>

[364] CAFC, Decision in *TVI v. Elbit*, 08.03.2017<sup>1</sup>

[367] P. Michel, et al: "The Current Patent Landscape in the US&Abroad", 12th APLI, USPTO, 09.-10.03.2017<sup>1</sup>

[369] P. Newman, dinner speech, 12th APLI, USPTO, 09.-10.03.2017.

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