Refining the USPTO's IEG Update for Solving the PE Problem
and
A PS to my Comment on John Duffy's Essay about "Claiming" under 35 USC

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I. The § 101 Heat Holds on — § 101 Irrationalities Running Wild

Originally, the following was to have been just a note about the second headline: That John Duffy's Essay ("**JDE**"[314]), focused on "classical/pre-*A*"[3.a] claiming, provides the historic context for the Supreme Court's "*MBA* framework semiotic rocket" launch of the needs of an "emerging technology claimed invention, ETCI" as requiring for ETCIs' PE enablement the by *Alice* outlined "refined/post-*A*" claiming. This author discussed this alleged requirement with Prof. Heinz Goddar and Prof. Josef Straus in Berlin on 12.10.2016.

Yet during the § 101 meetings of the USPTO in Alexandria on 14.11.2016 and of the IAM in DC on 15.11.2016 this original plan had to be changed: Several very important voices in the patent community complained again about ●an allegedly still raging § 101 rejection mania with the USPTO's examiners and ●a never-ending sequence of inconsistent § 101 decisions by the CAFC due to the allegedly incomprehensible *Alice* decision. These voices reiterated (see above) that § 101 should be stopped, one way or another — by the Congress, by the Supreme Court itself as having caused this alleged "morass", or somehow by the CAFC, USPTO and district courts — as judicial consistency and predictability, urgently required from Substantive Patent Law ("SPL") by any investor into an area of the US innovation economies, would (miraculously) be reestablished by the application of SPL §§ 112/102/103 alone. For short: All that is nonsense!

Section II of this publication hence starts with a brief recapitulation of that and why it is untenable to still complain about the incomprehensibility of the Supreme Court's *Mayo/Biosig/Alice* ("*MBA*") decisions, in particular of *Alice*. The CAFC's recent series of PE decisions from *DDR* on prove the contrary.[1.a] And: Excluding from patenting only unlimited preemptive inventions[b] — as *Mayo* requires and *Alice* outlines how to achieve — already completely solves the hitherto "PE problem". I.e.: The "§ 101 problem" doesn't exist anymore. The USPTO's next update of its IEG should emphasize this (mathematically proven) fact.[c]

Section III then elaborates on an ETCI's ●exact/precise/complete description by its "inventive concepts, inCs"[7.a] and ●in these CAFC PE decisions still missing (subtle but mandatory preemptivity) checks[d]. Both "●" may be seen as two blueprints for expansions of the USPTO's IEG Update that this author suggested in[347] for showing how everybody must proceed for reliably excluding the "*Alice* way" his/her PE problem.

Section IV finalizes with the short note mentioned in the first paragraph above.

[1.a] The CAFC's evident uncertainties — whether an ETCI meets the *Alice* decision's requirements — show subtle flaws soon vanishing. Not because then some majority meaning will prevail (which may change at any time), but because SPL by the *MBA* framework arose to a sub-physical, purely notional, absolutely exact science. And as any exact science, this SPL is defined to be a new area of Mathematics, the definition of which is provided by a set of "35 USC/*MBA*" axioms[9.b], and ETCIs under this 35 USC/SPL Mathematics are just theorems in this new area of Mathematics that may be mathematically proven to be correct (and then are protected by SPL) or are false.

Modern Mathematics comprises many such areas, any one of which is a sub-physical exact science within Mathematics, e.g. Set Theory. Just as the latter is defined by a set of "Set Theory" axioms — e.g. the set of ZFC axioms[2] — the exact SPL Theory is defined by a set of "SPL Theory" axioms[9.b,273,316], e.g. the set of '35 USC/*MBA* framework' axioms[9.b] enabling rationalizing[3.b] all ETCIs[182]/III.

[.b] i.e. focusing on an aspect, until recently totally ignored by the patent community, although by *Mayo/Alice* repeatedly clearly emphasized: That ETCI is defined to be PE iff it passes the *Alice* decision's PE analysis, i.e. iff it is of only limited preemptivity[300, 301].

[.c] By its *MBA framework* decisions the Supreme Court has enabled granting ETCIs absolutely robust patent protection — now the CAFC and USPTO are joining in. This puts the US National Patent System into a worldwide lead of at least 10 years.

[.d] Due to its huge examiner corps, the USPTO totally dislikes these two here key notions, "inventive concepts" and "preemptions". Yet since 3+ years respective automatic learning systems are announced, e.g. for FSTP-Technology[8.a]/[9.b,350], eliminating this 'huge classes' problem. As to the IEG: It cannot provide a comparable user guidance, as long as it is not based on these two key terms.

II. The Complete Solution of the ETCI's § 101 a.k.a. PE Problem[2.a]

The "*Alice analysis*" mission: Determine, for nPE "Technical Teachings, TT0s"[b1], the **minimal** SPL require-
ment to be met to transform it into a PE ETCI not jeopardizing the NPS, as being limited preemptive.

Its solution[b2] is: The "**Eligibility Determination Aspects Test, EDA-Test**" using an ETCI's 4 key EDAy,
$4 \leq y \leq 7$, based on the ETCI's specification[c1] — i.e. to provide the ETCI's **4.)"nPE TT0"**, **5.)"limited pre-
emptivity"**[300,p.5], **6.)"significantly more than TT0"** alias **"inC^{Alice}"**, **7.)"application of the nature of TT0"**.

Using all 7 EDAy — and using the abbreviation[c2] — the EDA-Test is described by:

EDA1:	ETCI meets § 112, meaning[a]: A-crCS $::= \{$A-crC0n, $\forall 1 \leq n \leq N\} ::= \{\wedge^{1 \leq k \leq K_n}$ (E-crC0nk v E-ncrC0nk), $\forall 1 \leq n \leq N\} \wedge$ E-crCS $::= \{$E-crC0nk, $\forall 1 \leq k \leq K^n, \forall 1 \leq n \leq N\} \wedge$E-crCS is [in **i):** (new$\wedge$useful$\wedge$definite$\wedge$complete) $\vee$ in **ii):** (new$\wedge$useful$\wedge$definite)]
EDA2:	ETCI is lawfully disclosed, i.e. all crCnk are lawfully disclosed, just as their peer leCnk, with $1 \leq n \leq N \wedge 1 \leq k \leq K^n$;
EDA3:	ETCI is enablingly disclosed, i.e. the implementability $\forall$A-crC0n, $1 \leq n \leq N$ (embodying all their above E-crC0nk $1 \leq k \leq K^n$);
EDA4:	**ETCI comprises an "nPE TT0", as:** [7.f] scope(crCS^{TT0}) $\neq^+ \Phi$;
EDA5:	**ETCI is "limited preemptive", as:** [7.f] (scope(crCS^{TT0}) $\neq^+ \Phi$) $\wedge$ ($\prod^{TT0}$scope(crCS^{Cl}) $\subseteq$ scope(crCS^{TT0})) $\wedge$ (crCS$^{Alice} \neq \Phi$);
EDA6:	**ETCI is "significantly more" than TT0, i.e. an inventive *Alice* concept exists, as:** [III.7] crCS$^{Alice} \neq \Phi$;
EDA7:	**ETCI is an "application of the nature of TT0 ", as:** [III.9] $\prod^{TT0}$scope(crCS^{Cl}) $\subseteq$ scope(crCS^{TT0});

FIG1: *The EDA-Test of an nPE TT0, Transforming TT0 into a PE ETCI[301], Refining the IEG's Deficient Two-Step-Test[f]*

To execute the 7 EDA-testy — the 4 last and here key ones were hitherto unknown — its user must input
to them the ETCI information[c3]:

- **EDA1:** COM(ETCI).
- **EDA2:** Confirm the lawful disclosure of all K E-crC0k's — $1 \leq k \leq K$ simplify all above nk, $K = \sum^{1 \leq n \leq N} K^n$.
- **EDA3:** Confirm the enablement of all N A-crC0n's.
- **EDA4:** Cbvttt "scope(crCS^{TT0}) $\neq^+ \Phi$"[d] tells "**TT0 is nPE**"[f], as it comprises a crC being a natural phenomenon or an abstract idea or is itself an abstract idea.
- **EDA5:** Cbvttt "(scope(crCS^{TT0}) $\neq^+ \Phi$) $\wedge$ (($\prod^{TT0}$scope(crCS^{Cl}) $\subseteq$ scope(crCS^{TT0})) $\wedge$ crCS$^{Alice} \neq \Phi$" tells the "**ETCI is limited preemptive**", as of[300/p.5].
- **EDA6:** Cbvttt "crCS$^{Alice} \neq \Phi$" tells the "**ETCI is significantly more than TT0**", as defined in[300/2.b)].
- **EDA7:** Cbvttt "$\prod^{TT0}$scope(crCS^{Cl})$\subseteq$scope(crCS^{TT0})" tells the "**ETCI is an application of TT0 nature**".

The **EDA-Test** is the "O-/A-/E-refinement" of the *Alice* analysis. Thereby holds:

α) Any EDAy, $4 \leq y \leq 7$, of an ETCI is a mathematical expression made up of its N+K A-/E-crC0n/k's.

β) By the EDA-Test an ETCI's PE is known iff its and its TT0's description by its K E-inC0k's is known.

γ) An ETCI has an EDAy, $4 \leq y \leq 7$ iff   EDAy's x E-crCs, $1 \leq x \leq K$, verify the logical expression of EDAy.

δ) An ETCI is PE iff it has all 7 EDAy's — **verifying that its nPE TT0 is transformed into a PE ETCI**.

ε) An ETCI is PE iff it passes the EDA-Test, i.e. the refined test of the *Alice* decision's PE analysis.

ζ) For a mathematical COM(ETCI)[e], EDA4-7 need no input as by IES[9.b] automatically executable.

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[2] **.a** This page is a context adjusted excerpt from[300]. For the terms TT0, COM(ETCI), $\prod^{TT0}$, scope, $\neq^+$, crCS^{TT0}, crCS^{Cl}, and crCS^{Alice} see 8.a)[301].

 .b1   That TT0 — resp. its crCS^{TT0} — is on its own an nPE yet definite and useful invention (not necessarily new)[8.a], which is or comprises an abstract idea or comprises a natural phenomenon, is here indicated by the term "=$^+$", defined to comprise this very property of TT0.

 .b2   Note that the Supreme Court's "*Alice solution*" is truly Solomonic. While it principally cannot declare a natural phenomenon and/or an abstract idea to be PE (as this would imply massive contradictions to other areas of life, the freedom of which is guaranteed by the US Constitution), but any application of it is granted to be PE (subject to this application's embodying an independent concept, not really being an additional restriction as required by this application's patentability anyway[300,301]). Thus, this solution evidently meets the interests of all parties in the patent economy interested in patenting ETCIs — without thereby risking to potentially put the US NPS into jeopardy[8.a]. [300,301]

While the CAFC's decisions in *DDR/Enfish/IVT/McRO/AMDOCS* are principally all in line with the Supreme Court's refined *Alice* analysis and its solution by the EDA-Test, they all — except *DDR* — fail to clarify the "independence of crCS^{Alice} from TT0"[8.a]. [300/2.b)]

 .c1   The *Alice* decision introduces all EDAs. For the necessary&sufficient mathematical expressions indicating an ETCI's PE see Section III.
 .c2   in an ETCI's **i)**claim interpretation being based on its inventor's information, in its **ii)**claim construction on this claim interpretation
 .c3   In simple cases **ζ)** applies today already[e]. Then only for EDA-test1-3 user input is needed: The IES may derive from it the rest.

 .d "**Cbvttt**" abbreviates **"**Confirm by verification that the term" .... And "=$^+$" assesses thatTT0 is unlimited preemptive and hence nPE[f].

 .e Defining the inCs of COM(ETCI) mathematically — on top of resp. models — is with simple ETCIs always possible[273,316,320].

 .f The above EDA-Test is a refinement of the IEG's "Two-Step"-Test (as the former works also with the rational(izable) E-level of notional resolution, the latter with the metaphysical/metarational O-level only), which does not meet all the Supreme Court's *Alice* require-ments: Its first step corresponds with EDA4, but its second step (checking for the existence of an inventive *Alice* concept, correspon-ding to EDA6) is also required to check EDA5 or EDA7, which the IEG totally ignores. **It thus finds some ETCIs PE, but *Alice* nPE!!!**

III. Blueprints for the USPTO's IEG as to "Inventive Concept" and "Significantly More"

or academically[3.a)]

The Supreme Court's "Refined Claiming" Rationalizes John Duffy's "Classic Claiming"

The Supreme Court's *MBA* decisions paved the way for refining the pre-*A* cognitive qualities of all SPL notions of JDE's varying classical claiming to these SPL notions' unique post-*A* cognitive qualities, i.e. to their rationalizations[b)]. It thus established a paradigm shift of the meanings of many basic SPL notions — hitherto of pre-*A* cognitive quality only, i.e. of plain Metaphysics[b)] — into rationality.

Exemplary notions of this kind are an ETCI's[c)] "**inventive concept(s), inC(s)**" and **"scope"** — for which hitherto no (meta)rational definition exists, as elaborated on in Subsection III.8 — just as its embodied[2.a)] nPE invention's "**transformation**"/"**nature**"/"**significantly more**", presented in the final Subsection III.9. The rationalizations of all such notions enable, first of all and even mathematically,

<u>assessing an ETCI's definiteness, PE, patentability, and its patent's legally absolute robustness</u>.

This once more: These rationalizations warrant that an ETCI by passing the FSTP-Test[300,301] shows that the ETCI's patent is **legally absolutely robust**, i.e. is unassailable by SPL if its facts are correct (by *Teva* decided by district courts). This statement is unthinkable without the ETCI being based on its inCs.

<u>Thus, expanding the next IEG update by the therein missing two PE notions seems reasonable</u>.

<u>Two blueprints for them are provided next</u>.

Yet this "pre-*A* to post-*A* paradigm refinement" of testing an ETCI for its being PE[d)] is not trivial. Hence, any of the below 9 Subsections III.1-9 clarifies only its headline's single aspect. Thereby some of these clarifications may at the first seem to be quite sophisticated — but only on the first reading.[e)]

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3 **.a** Upfront an important notice: The **THESE** meanings of the terms "Aufklärung, *A*", "pre-*A*/post-*A*", "Metaphysics/Rationality", "O-/A-/E-levels of notional resolution", and in their vicinities of "Concept", "Decidability", … – used in[332], here also often referred to – will be clarified in more detail in a Memo of its own[273,316,320]. I.e.: Here a very rudimentary understanding of these notions fully suffices for facilitating talking about cognitive paradigm shifts[335] of historic dimensionality tightly related to the Supreme Court's *MBA* framework.

In other words: The Supreme Court has by its *MBA* framework performed a paradigm shift[331,332] – partly completed or only indicated or induced[300/1.d)] – anyway a groundbreaking refinement of the classical "paradigm for claiming"[314], i.e. also of the classical paradigm for SPL precedents about inventions. Without this Supreme Court initiative – enabling ETCIs' absolutely robust[III.8] patent protection – this notional refinement probably would have been deferred for another 30 years, thus perpetuating the just overcome serious crisis with ETCIs[332/p.1]), i.e. with inventions embodying a natural law or an abstract idea (in spite of their often being especially meritorious due to their comprising crucial "low Metaphysics"[316], see[b)]).

.b Everybody in the patent community intuitively somehow grasps the following notion "inC" in III.1-9. But let's be better, namely rational.

By all the epistemological insights achieved since Analytic Philosophy, the advent of AIT[2], and the incredible power that they already have and permanently increase, some basic philosophical notions echoing Kant's thought — "practitioners only" may skip this and similar footnotes — may in their cognitive quality today be represented more simply and crisply than earlier, what is done here. Especially, only few simplified ontological categories ('named inventions' made up from 'named elements with named properties/meanings') and the results of their rationalizations modeled by "Mathematical Knowledge Representation, MKR"[2,320], suffice for precisely representing the Supreme Court's *MBA* framework. This brings together theoretical SPL&ETCI- with AI's cutting edge ETCI&MKR-thinking.

Thereby shall hold:

• Any ETCI notion is '**metaphysical'** (= **'irrational'**) or '**metarational'**(= **'metarationalized'**) or '**rational'**(= **'rationalized'**) if it is in its detailed working 'not-at-all' or 'partially' or 'fully understood', whereby understood means 'mathematically defined'[III.8[320]]. A notion being metarational hence indicates that part of its meaning is not yet mathematized as still metaphysical. By an axiom this part (or a part of it) may be rationalized/mathematized — as e.g. the axiom "i ::= SQRT(-1)" is the rationalization of "i", expanding the real numbers' rationality to the rationality of complex numbers. Evidently, no separation line exists between the first two notions.

• Terms in '…' belong to the Metalanguage here used, having simplified 'Aufklärung, *A*' meanings, adapted to the needs here – yet still powerful enough for stating an ETCI's SPL property, as needed in everyday communications about it.

• The syntax and semantics of the Metalanguage used here are vastly immaterial, as usually being just "glue". By contrast, the Objectlanguage on top of (i.e. defined by use of) this Metalanguage is crucial. A notion of the latter is always a '**compound**' or an '**elementary**' one, whereby a compound notion is made up of a conjunction of finitely many elementary notions. Any elementary notion is made up of finitely many binary notions (one at a time, if it has several values), any one describable by a binary predicate, the truth value of which may be rational or metarational or metaphysical. For its false value and more details see[316].

.c The patent community suffers from a broad incapability and/or refusal to recognize/admit that the peculiarities of ETCIs, as compared to CTCIs, require thinking about their properties in a much more meticulous way[4.a)] — implied by the Supreme Court's *MBA* framework decisions, especially by *Biosig* and *Alice*, and enabled by the concise aspects of the inCs defining an ETCI, introduced by *Mayo*[III.8].

.d — testing it with the FSTP-Test for its satisfying all of 35 USC/SPL requirements needs only small additional steps —

.e The Subsections III.1-.9 comprise much background information for showing that notionally the Supreme Court's *MBA* framework requires, in refined testing of an ETCI under SPL, acting much more thoughtfully/meticulously than in JDE. **If III.1-9 is taken as comprising information for blueprints for 2 IEG expansions, all this background is superfluous, especially all of the side remarks here that provide this background. The IES namely may fully substitute it by taking care of it, pretending to the user 'blue skies', i.e. every input it prompts from him/her is trivial.** Informing it completely is possible, but not implemented by the IES prototype[350].

●**The Blueprint for the IEG Update as to an ETCI's "Inventive Concepts & Scope"**●

III.1:   Basics of an ETCI's inventive concept(s), "inC(s)".

The "inC" is the groundbreaking and indispensable notion that enables an ETCI to perform refined claiming.[4.a)] An ETCI's inCs enable the application of the "*nature of the nonPE invention*" to perform the "pre-A to post-A transformation of this invention's original nPE classical claiming to this application's refined claiming"[IV.] that the Supreme Court requires by its *Alice* decision. Any one of an ETCI's inCs models metarationally or even rationally[3.b)] the increment that it contributes to the ETCI's "**total inventivity**" — which is defined to be the logical conjunction of all inCs making up an ETCI. Therefore this ETCI's inCs are called its "**increments of inventivity**".

An ETCI's description by its inCs – as opposed to it classical description by its limitations[a)] – embodies several big advantages over the latter. One of them is that the description of an ETCI by its inCs is much more concise than the one by its limitations. Namely, considering both these descriptions as being two specifications of this ETCI, one immediately sees: The ETCI's description by its inCs directly defines all necessary and sufficient conditions to be met by this ETCI, while the classical ETCI description defines only its necessary conditions to be met (i.e., leaving the sufficient ones undefined – whereby exhaustion is often impossible[7.a)])[259].

But this preciseness and scrutiny is absolutely indispensable with ETCIs, as any ETCI embodies (in addition to its usually more than 1 classical technology crC) at least 1 and at least partially invisible/intangible/fictional and often not-fully-rational definable crC, which therefore is definable only by means and on top of a fictional model[III.8], which completely eliminates alias "abstracts away" the 'low Metaphysics' being part of any ETCI[321]. I.e.: An inC defined on top of such a model represents a natural phenomenon or an abstract idea embodied by the ETCI. I.o.w.: Any ETCI comprises a "model-based" property – the corresponding inC models a "**natural phenomenon**" or an "**abstract idea**", both properties not really existing with CTCIs. I.e., all inCs of a CTCI model visible/tangible/nonfictional properties.

III.2:   An ETCI's inventive concepts are disclosed by its specification.

They are disclosed by the patent's specification. Hence an inventive concept need not even be quoted by the claim's wording of an ETCI, if only the latter's specification im- or explicitly discloses its meaning and this wording comprises it (see the CAFC's *DDR* case[156,160]). This finishes the age old nonsense that "limitations must not be imported into claims' wordings".

Note: A patent specification may disclose, for one of its ETCIs, one or several sets of inCs, each making-up this ETCI's total inventivity, thus disclosing for this ETCI a single or finitely many different descriptions, i.e. 'interpretations' – all of these being assumed to represent the same invention[6,7,45,142], as otherwise this ETCI may be "**indefinite**"[5.a)].

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[4] **.a** All elaborations on ETCIs hold also for CTCIs. Yet CTCIs' claiming — normally classical and then wishy-washy as **based on limitations of its invention, <u>which in turn is nowhere defined precisely</u>** — often isn't concise enough to rule out confusion or risks when dealing with an ETCI. Especially: Exactly/Precisely/Completely[6.b)] describing an abstract idea or natural phenomenon by its limitation is logically impossible[316,320]. I.e.: To this end inCs have occasionally been used since ever, preserving the misbelief, they were described by limitations, i.e. not making the user aware of this basic distinction. With CTCIs this distinction hardly matters[6.a)].

    The vast majority of the patent community still considers this notion of 'inventive concept' as mysterious: *Mayo/Alice* namely left its details open – as, in principle, it has long been known[2], how to precisely model any real-world (meta)rational issue (here: of an invention or ETCI) by its "issue specific" concepts, which the Supreme Court accordingly called: the ETCI's "**inventive**" concepts.

    Once accustomed to the sloppiness of classical claiming and its being based on "limitations", this much more concise notion of inC(s) is unfortunately a priori not quite trivial to grasp as somewhat more demanding — but is explained now, making it next to trivial.

III.3:   An ETCI's inventive concepts enable its representation on 3 levels of notional resolution.
These 3 abstraction levels fix the problem that the *MBA* framework's notion of an ETCI's inC(s) is too coarse/vague for reasoning about it as concisely & precisely as the *MBA* framework requires.[5.a)] By its *MBA* decisions the Supreme Court clearly requires the here described[300/1.d)].

I.e.: Prior to starting this reasoning, the refinement of this notion is often inevitable. This refinement is ideally performed before this start, but practically it will be performed iteratively overlapping with this reasoning over the ETCI. These refining steps take place on 3 levels of notional resolution: ●On the ETCI's notionally "original, O"-level making aware the information in the ETCI's original representation. Thus the ETCI's specification of its patent (application) enables vaguely identifying the O-inCs making up the ETCI, being the coarsest as vastly most informal level of notional resolution. ●On some (intermediary) "abstract, A"-level of notionally refined resolution of this information about this ETCI. This refinement already enables a precise yet still abstract description of this information by A-inCs ─ described by A-level predicates ─ representing one-on-one or somehow jointly the preceding O-inCs. Finally: ●On some (lowest) "elementary, E"-level of further refined notional resolution of the ETCI's preceding A-level information, whereby this refinement moreover enables disaggregating the compound A-inCs (i.e. their compound A-level predicates) into conjunctions of their elementary E-inCs (elementary E-level predicates).

After this declarative description of the representation of all SPL knowledge about an ETCI embodied by all O-/A-/E-level inCs modeling it[a)][271], the next 3 bullet points outline how it is procedurally gained – as ex- or implicitly required by all the Supreme Court's *MBA* decisions:

● 1. step: creating/finding/guessing its inventive concept(s) on the O-level is trivial, once the ETCI's specification exists – prior to its existence this manifoldly creative process is highly metaphysical but nevertheless supported by the IES[283,350];

● 2. step: deriving from this/these vague O-inC(s) its/their A-inC(s), describing the O-inC(s) by formal predicates, thus getting more concise about the ETCI. I.e.: First
   o determine, of this invention, its notional carrying pillar(s), called "**ETCI-element(s)**"[b)]. They are indicated by keywords in the ETCI's specification[c)], are the same on all 3 levels, and separate ETCI's concerns from each other[278]; then
   o model precisely&exactly[6.a)] the properties of any ETCI-element[b)] by a single predicate[c)].

● 3. step: deriving from this/these A-inC/s the (almost) always several E-inCs – any one representing only a single thought[6.e)/[5-9], i.e. defined in syntactically very restricted natural English language exclusively based on 'atomic' notions thus getting totally precise about the ETCI – such that any A-inC is a 'conjunction' of E-inCs and potential E-Cs[d)].

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[5] **.a** This **original** knowledge representation of this ETCI is evidently provided solely by the ETCI's specification. While this specification often comprises different such O-levels of knowledge representation about this ETCI, therein even using different E-inCs, the assumption here is that the specification is not contradictory in itself ─ i.e. that the ETCI is the same with any one of these O-level knowledge representations, rendering immaterial which one is depicted. Unless the ETCI is pathological (whereby it is unknown whether such an ETCI exists at all[5-7]), it is proven that all its various corresponding well-defined COM(ETCIs) are isomorphic.
   This top-/O(riginal)-level knowledge representation[7.a)] may always be ●made more concise & precise on the A(bstract)-level by describing it with compound mathematical predicates[320], which in turn may be ●notionally refined into conjunctions of the ETCI's elementary mathematical predicates representing the ETCI's elementary alias "atomic" building blocks[7.a)].
   These 3 levels of notional resolution are passed every day in any intellectual perception process whatsoever in everybody's brain, when getting precise about this initially only vaguely noticed perception – mostly without being aware of its O-/A-/E-level activities[271].

.b The ETCI-elements X0n, n=1,…, N, could also be seen as inventive concepts, similar as in *Alice*[7.a)]. But this notional separation between ETCI-elements and their properties is more intuitive. These ETCI-elements may have been determined within the 1. step or by iteratively toggling between both steps, which applies also to the 3. step.

.c using a restricted natural language, almost exclusively based on "**atomic**" notions only[238],

.d see also[7.d)]. Thereby the missing "in" indicates that it comprises no E-crC[III.6] but known prior to filing the patent application for ETCI. A-Cs are superfluous, as they are seen as parts of A-inCs, of which usually only their E-crC combinations in them matter ─ yet see[299].

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III.4: An ETCI is described by its "combination of inventive concepts, COM(ETCI)".
The COM(ETCI) is the structure of an ETCI's A-/E-(n)crCs that the EDA-Test shows in its EDA1[6.a].
By the end of an ETCI's claim interpretation it enables the inventor to check whether COM(ETCI)
at all correctly describes this ETCI's inventivity as disclosed for the pposc[a] by its specification.

III.5: An ETCI's inventive/creative concepts are notional simplifications of "AIT-concepts".
The latter notion has been used since the late 60s, for general purpose recursively aggregating
compound concepts from more elementary (eventually "atomic") ones. Yet both kinds of concepts
serve the same basic purpose, though of opposite "polarities". Namely: Exactly/Precisely/Comle-
tely[b] describing how new compound concepts are to be aggregated from given elementary ones,
resp. how given compound concepts are to be disaggregated into new elementary ones.

O-/A-/E-inCs facilitate[c] *MBA* framework based decision making about this ETCI[d] ─ by contrast
to AIT-concepts, totally lacking any 'SPL pragmatics', e.g. III.3,6,7,9, and especially[e][f].

III.6: Any E-inC is a pair "<'**legal concept**, **E-leC**', '**creative concept, E-crC**'>"[g]. Thereby:

- Any E-leC is 'ETCI nonspecific', a priori defined on top of the for all ETCIs single 'SPL-mo-
del'[320] provided by the IES. It is a legal justification as to one of the stereotypical FSTP-
testo, 1≤o≤9 (by a multiple-choice icon selected by the IES user, prompted by the IES).

- Any E-crC is 'ETCI specific' and to be defined by the IES user's input, on top of this E-crC's
"E-crC-model", by inputting this E-crC's finite "truth set, E-crTS" – by the ETCI's specification
necessarily disclosed for the pposc, being the same in the ETCI for all 9 FSTP-testo's.

III.7: There are 3 basic kinds of ETCIs' inventive/creative concepts.
Three kinds of inCs, defined by the Supreme Court's *MBA* decision, must be distinguished –
●ordinary inCs, ●exceptional inCs (modeling abstract ideas and/or natural phenomena[h]), the
occurrence of which in an ETCI's COM(ETCI) renders the ETCI nonPE[EDA4], unless it has a par-
ticular structure, as recapitulated from[300] in III.9), and ●*Alice*inCs[FIG1] (recapitulated also in III.9).

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[6]   **.a** For reducing inCs to crCs see III.6. Note: This exactness/correctness/completeness assertion[b] of the description of the ETCI by the inven-
tor – unconditionally required by the Supreme Court's *Biosig* decision– is impossible if instead of crCs their incomplete logic complements
(i.e. their limitations) are used for describing the ETCI[4.a]. "**pposc**" abbreviates 'person of pertinent ordinary skill and creativity'.
    COM(ETCI) is also extremely dense, i.e. often only ½-1 page long, and by SPL unassailable – if the ETCI is properly documented.

   .b "Exact" stressing this definition's seamlessly matching 35 USC legal *MBA* framework notions (indispensable for ETCIs' absolute legal
robustness), "precise"/"concise" its factually not staying within the vague pre-*MBA*/SPL semantics, but be fully rational.
    The argument that none of the Supreme Court decisions explicitly requires this degree of scrutiny as required here is obsolete:
The *MBA* framework strives for consistency, predictability, and robustness in SPL precedents about ETCIs, otherwise not achievable.

   .c ─ in addition to modeling/disaggregating/checking an ETCI by them ─

   .d as they enable determining an ETCI's definiteness/PE/and patentability ─ for mathematical E-crCs even automatically by the IES[350].

   .e This totally fundamental Kant-like insight "1 E-crC models 1 independent thought" and vice versa originates from the German BGH's
Gegenstandstraeger decision (1996) in a CTCI's nonobviousness case (after several quite similarly justified nonobviousness BGH
decisions, which all then went unnoticed by the German patent community[6,7,9,237]). I.e.: crCs are often precisely definable only on the
E-level, e.g. as A-level items usually don't meet this notional "atomicity" requirement to represent only 1 independent thought[6,7,8,64,142].
    Accordingly, any E-crC modeled notion is seen to be an 'atomic' notion. This does not mean that the elements of the TS descri-
bing an E-crC must be a finite set only: This TS may consist e.g. of finitely many intervals of real numbers (being infinite sets). The
peer E-leCs are trivially finite. If the ETCI's specification doesn't disclose for the pposc "enough" such 'only 1 thought representing' E-
crCs ─ it is unknown whether such ETCIs exist, at all ─ this ETCI is called "**pathologic**" and is ignored here [5-7].

   .f automatically translatable into an SPL equivalent "Legal Argument Chain, LAC" for human perception in various representations[268].

   .g This implies, for any E-inC, clearly separating its SPL aspects from its subject matter aspect. This would greatly improve the separation
in the invention's presentation of its factual from its legal aspect, by its inventor or the like just as in its critics by the USPTO's
examiner. Today examiners in their Office Actions very often insolubly merge these two logically independent aspects, thus seriously
aggravating their communications with the rest of the world, in particular the patent owners/applicants.
    Due to this dual character of inCs, they are often seen as "mongrels" ─ as seen by the Supreme Court's *Markmann* decision, in
which it denoted an ETCI's claim interpretation as "mongrel practice" as being of exactly this dual character. No E-leC needs to be
disclosed, as all finitely many are a priori known to the IES by 35 USC/SPL (incl. all precedential decisions)**.**
    A-leCrs are finite conjunctions of E-leCrs – enabling rationally reasoning about any ETCI's by finitely many LACs[f], legally being
of the same structure for all ETCIs. This is a key objective of FSTP-Technology[350].
    Note that the A-/E-leCs do not model all legal properties of an ETCI: They model only those of the E-crCs one-by-one ─ while
the ETCI's complex as intermeshed legal properties are checked by the FSTP- or EDA-Test's sub-tests, also vastly separated from
each other. This perfectly clean cut structure enormously simplifies testing an ETCI for whatsoever SPL property.

   .h While ordinary inCs are constant over time (i.e. are deterministic) and fully rational, exceptional inCs are assumed to be metarationally
indeterministic and hence to be potentially expanding over time (natural phenomena) or potentially allowing this anytime (abstract ideas).

III.8:   <u>A rational ETCI's scope and its rationalization[7.a)]</u>

Just a reminder: All preceding SPL notions are metaphysical[3.b)] (i.e. of pre-*MBA*/classical/pre-*A* quality of thinking), or metarational[b)] (i.e. of post-*MBA*/refined/post-*A* such quality)[c)] ─ and no SPL notion is hitherto rational (i.e. of post-*MBA*/refined/post-*A* and mathematics such quality)[c)].

The rest of Section III changes over from this hitherto metarationality to rationality, due to several practically extremely important reasons ─ each dealing with automating some ETCI business ─ by far overcompensating the cost of mathematically describing the ETCI's inCs by IDL[320].

For an allegedly rational ETCI disclosed by its specification, its rationalized "E-scope(ETCI)"[d)] is by running its claim interpretation through the EDA-Test[FIG1]. The metarational scope(ETCI) then is defined, in terms of trivial Set Theory and t being the time, as follows:

"scope^t(ETCI)" ::= $\{\forall rt^{t,R}(ETCI) \in (TS^{t,R}(ETCI) \subseteq TS^t(ETCI) \subseteq D^t(ETCI) \subseteq DIS^t(ETCI))\}$[e)], whereby
"DIS^t(ETCI)" ≡ **"Disclosure (K-Tuple) Set of ETCI at t≥0"** ::= $\{\forall \in \prod^{1 \leq k \leq K} DIS^t(E\text{-}crC0k)\}$,
"D^t(ETCI)" ≡ **"Domain Set of ETCI at t≥0"** ::= $\{\forall \in \prod^{1 \leq k \leq K} D^t(E\text{-}crC0k)\}$, $D^t(E\text{-}crC0k) \subseteq DIS^t(E\text{-}crC0k)\}$,
"TS^t(ETCI)" ≡ **"Truth Set of ETCI at t≥0"** ::= $\{\prod^{1 \leq k \leq Kt} TS^t(E\text{-}crC0k)\}$, $TS^t(E\text{-}crC0k) \subseteq D^t(E\text{-}crC0k)\}$,
"TS^{t,R}(ETCI) ≡ **"Realization TS of ETCI at t≥0** ::= $\{\prod^{1 \leq k \leq Kt} TS^{t,R}(E\text{-}crC0k)\}$, $TS^{t,R}(E\text{-}crC0k) \subseteq TS^t(E\text{-}crC0k)\}$.

I.e.: The total reliance on mathematics enables defining the scope(ETCI) absolutely precisely. This implies: Whether any ETCI is protected by SPL is mathematically testable ─ by the IES at least strongly supported, if not even vastly automatically. For a potential infringement/preemption then holds the same support, i.e. this ETCI's scope^t(ETCI) is violated by another ETCI*, iff there is at least one RT^t(ETCI) = RT^{t*}(ETCI) for t=0/t≥0, i.e. scope^t(ETCI)$\cap$scope^t(ETCI*)≠Φ[e)].

A final remark as to TS^{t,R}(ETCI): In[301] this term was erroneously left away, thus committing almost exactly the same deviation from the Supreme Court's *Alice* analysis, for that this author criticized the CAFC in several of its recent PE decisions. This is by no means only a marginal aspect, as technically for an ETCI potentially decisive and ignoring this *Alice* requirement ─ e.g. by the IEG's two-step test ─ might determine the ETCI PE, thus contradicting the *Alice* analysis determining it nPE.

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[7] **.a** Rationality requires that all the items considered are defined mathematically. Here these mathematical definitions may be written in IDL[320], being a trivial English idiom refraining from requiring to use mathematical terms, i.e. enabling the analyzer to completely avoid using mathematical expressions. For the here purposes it is simpler to use the few Mathematics needed by the following elaborations.
  A concept C is notionally & mathematically a mapping M(D(C)) of a set "domain, D(C)" and therein C's "Truth set, TS(C)" to another set. As here only binary concepts need to be used, the second set comprises only the elements/values {T,F}, and M then is called a "predicate", defined on D(C) and mapping M(TS(C))=>{T} $\wedge$ M(D(C)\TS(C))=>{F}. Semantically, a concept represents a property of an ETCI-element[a)], whereby here only E-level concepts need to be explained, as A-/O-level concepts are their conjunctions[III.3].
  For an ETCI (having N ETCI-elements X0n, 1≤n≤N[5.b)]) an E-inC's E-crC[III.7] models by its D(E-crC) a "new" atomic property[III.3] of an ETCI-element X0n, n∈[1,N], whereby the elements of D(E-crC) represent these properties. An E-inC's E-leC(s)[III.6] model(s) by its/their TS(E-leC)(s) the "arguable sub tests, ASTs" showing that the to this E-leC sibling E-crC is disclosed by ETCI's specification[8.a)].

.b being in general much more concise than "analog" claiming, to use an ironic metaphor for classical claiming, but not yet precise

.c Nevertheless, this metarational refinement actually used by the Supreme Court's *MBA* framework decisions fully sufficed to induce ●metarationally refining classic claiming correspondingly and ●developing the FSTP-Technology and the IES[9.b)], as here presented.
  In this very specific area of law, in "SPL of *MBA* framework flavor", it is fortunately possible to increase this quality of reasoning to rationality ─ insofar seemingly being unique ─ i.e. to define all its notions fully mathematically. For the exact meaning of the notion "scope(ETCI)", this increased quality of reasoning does not only remove the otherwise unavoidable residual uncertainty about what an ETCI's scope exactly[6.b)] is. As metarational claiming doesn't use, in an ETCI's description of its patent(application)'s specification, only its inCs but also its limitations, it states solely the necessary requirements to be met by it[III.1]. I.e., it is principally impossible to derive from this specification the precise/complete scope(ETCI). This holds, although the ETCI description is finite in terms of its inCs, which in turn may be defined by infinite sets. Thus, its knowledge representation cannot be exhausted and hence is also metarational. And this holds only if it is noticed that its description establishes a 'finite inC problem'. Otherwise the classic notion of scope(ETCI) is of highly speculative Metaphysics.

.d ─ which establishes the big problem in many violation cases, completely eliminated by the rational notion of scope(ETCI). More precisely: Due to the enormous power of today's computers, the mathematical expressions for an ETCI right of the "::=" may be derived, for t=0, instantly from its mathematical specification alias COM(ETCI)[320], thus deciding any such dispute momentarily.

.e This 'E-set-up' is called the "E-model" of scope(ETCI), discussed in detail in[301/ftn8,320]; its "A-/O-crC models" are the mathematical products of their A-/O-set-ups[301/ftn8]. This completely/precisely/exactly rationalizes scope(ETCI) on its E-/A-/O-levels.
  As any ETCI comprises at least one exceptional E-inC[III.7] or comprises none but as such is an abstract idea, for this scope(ETCI) holds "**scope$^{t≥0}$(ETCI)$\supseteq$scope$^{t=0}$(ETCI)**", whereby here only t=0 counts, but is of interest for modeling preemptions.

.f FSTP = "facts screening/transforming/presentation"[300], IES = "Innovation Expert System"[9.b,350], CI = ETCI, "**CI**" and "**TT0**" for "limited to"

●**The Blueprint for the IEG Update as to** "**Transforming an nPE Invention to a PE ETCI**"●

III.9:   An ETCI's being "significantly more" equivalent to "of limited preemptivity only"

The preceding Subsections dealt primarily with inCs as such (including their representation on the O-/A-/E-level of notional resolution), with their use for describing the ETCI-elements' creative and legal properties as such, and told that 3 kinds of inCs are needed to this end[III.7]. Subsection III.9 now deals with the use of inCs for describing all other and more sophisticated requirements stated explicitly by the 35 USC §§ 101/102/103/112 or the US Supreme Court ─ and to be met by the inCs defining an ETCI under PE test (by the *Alice* "Test", in refinement being the EDA-Test), e.g. that this ETCI is "*significantly more*" than the nPE invention/TT0 and of "*limited preemptivity".*

All the patent community, including the CAFC and the USPTO's IEG, originally had huge difficulties with inferring meaningful semantics/pragmatics/semiotics into these key terms (below identified by their high-lighting one way or the other). But recently, the CAFC just as a number of IT experts from industry showed unmistakably at pertinent conferences that they no longer have such problems but enjoy that the "*MBA* framework thinking" significantly increases the quality of the patents that they are drafting.[8.a)]

IV. Not Applying §101 and *Alice* Invites Troubles with Any Patent on an ETCI

To continue, where the first paragraph in Section I ended: The Berlin meeting served primarily the clarification that "§101&*Alice*" is really indispensable in SPL, thereby also raising the question, how JDE ─ if extended to comprise rational claiming ─ were related to "refined/post-*A*" rational claiming.

The informal outcome was that not dropping the application of "§101&*Alice*" is by practical reasons indeed indispensable in SPL ─ especially as to the notions "infringing" and "licensing"[b)] ─ otherwise the need of strange cross licensing, anyway being practically problematic, becomes unavoidable.

E.g.: Not applying § 101 in the Supreme Court's *Alice* interpretation in an ETCI's SPL test ─ *Alice* is by FIG1 represented as EDA-Test for an ETCI's PE, explained in detail in[301]/1.f), and here implied by[a)] ─ would normally invite intricate preemption troubles. The reason being that any ETCI comprises at least one exceptional E-inC, which by definition potentially increases its domain autonomously and in an unpredictable way, hence also the scope^t(ETCI)[III.8], thus rendering this ETCI unlimited preemptive[7.e)]. Then, if an ETCI1 were patented already, and an ETCI2 were preempted by ETCI1 after some time (i.e. initially not), and §101/*Alice* were not applied, ETCI2 might be patented, too, as both their applications are seemingly not identical (and classically they are not parts of the resp. scope(ETCI1) and scope(ETCI2)). Then both patent owners were not entitled to use their respective ETCIs, unless he/she gets the license to this use from the other patent owner. But in the US this license were hardly enforceable by law (not to speak of a fair price). This were the end of investing into R&D.

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8 **.a** The *Alice* analysis requires from an ETCI – if it comprises an nPE TT0, then checked positive by EDA4, indicated by the "≠⁺Φ" – to comprise also, as a necessary condition for the ETCI's patent-eligibility, an application A (of TT0) checked positive by EDA7, which embodies an inC independent of TT0's inCs checked positive by EDA6 as making the ETCI "***significantly more***" than the nature of this TT0. I.e., any correct interpretation of the Supreme Court's *Alice* test must check whether the ETCI's specification discloses an application of the nature of TT0 – as *Alice* explicitly requires – "... ***transform***[ing] ***the nature*** of the claim [alias TT0] ***into a patent-eligible application***", and additionally an inventive concept transforming the nature of the ETCI's TT0 into "... ***significantly more*** ***than a patent upon the [ineligible concept] itself***" [being TT0]. Thus, an ETCI must comprise of its claim/TT0 its "nature", by common sense and ever philosophical thinking[326] meaning: with all its applications being the resp. "TT0 kernel" of the ETCI, yet under the application's precondition that it embodies an "**inventive concept, inC^{Alice}**, such that the ETCI is significantly more than what TT0's concepts embody. Thereby nobody would assert: A space1 based on a set1 of independent concepts (i.e. of ETCI) is not "significantly more" than a space2 based on a set2 of concepts (i.e. of TT0), if space2⊂space1 and set2⊂set1 – in particular, as the element(s) of set1\set2≠∅ is(are) inventive concepts of the ETCI. (This colloquially presented rationale is easily translated into a mathematically stated one by considering the resp. RTSes [142,182,320]).
   From this presentation becomes evident that the trivial notion of "inventive concept" defined in[7.a)] is extremely amenable to being used as needed here, and thereby presents itself by the end of an *MBA* framework based ETCI analysis as intellectually really demanding

.b The meaning of the term ●another invention "**infringes ETCI**' is defined to mean RTS(ETCI) ∩ RTS(invention) ≠ Φ, i.e. at least one RT of the invention is also an RTϵRTS(ETCI), and of ●'**licensing ETCI**' opens hitherto unknown licensing opportunities ─ in that it now is possible to license of such an ETCI not only the entire RTS(ETCI) but also only arbitrary subsets, what evidently significantly increases the economic appeal of the licensing business.

The FSTP-Project's Reference List

FSTP = <u>F</u>acts <u>S</u>creening/<u>T</u>ransforming/<u>P</u>resenting (Version of 28.11.2016')
Most of the FSTP-Project papers below are written in preparation of the textbook [182] – i.e. are not intended to be fully self-explanatory independent of their predecessors.
Many of the MEMOs quoted below will be elaborated on only for this textbook.

[2]   AIT: "Advanced Information Technology" alias "Artificial Intelligence Technology" denotes cutting edge IT areas, e.g. KnowledgeeRepresentation/Description Logic/Natural Language (NL)/Semantics/Semiotics/System Design, just as MAI: "Mathematical Artificial Intelligence", the resilient fundament of AIT.

[5]   S. Schindler: "Math. Model. Substantive. Patent Law (SPL) Top-Down vs. Bottom-Up", Yokohama, JURISIN 20

[6]   S. Schindler, **"FSTP" pat. appl.**: "THE FSTP EXPERT SYSTEM", 2012')

[7]   S. Schindler, **"DS" pat. appl.**: "AN INNOVATION EXPERT SYSTEM, IES, & ITS PTR-DS", 2013')

[9]   **.a** S. Schindler, "Patent Business – Before Shake-up", 2013')
        .b S. Schindler, "Patent Business – Before Shake-up", 2015')

[37]   D. Bey, C. Cotropia, "The Unreasonableness of the BRI Standard", AIPLA, 2009')

[64]   B. Wegner, S. Schindler: "A Mathe. Structure Modeling Inventions", Coimbra, CICM-2014')

[69]   USSC, Transcript of the oral argument in *Alice* Corp. v. CLS Bank, 31.03.2014')

[91]   B. Wegner, S. Schindler: "A Math. KR Model for Refining Claim Interpret..& Constr.", in prep.

[171]   S. Schindler: "Semiotic Impacts of the Supreme Court's *Mayo/*Biosig/*Alice* Decisions on Leg. Anal. ETCIs")

[175]   S. Schindler: "Patent's Robustness & 'Double Quantifying' Their InCs as of *Mayo/Alice*", WIPIP. USPTO&GWU, 06.02.2015')

[182]   S. Schindler: "Basics of Innovation-Theory and Substantive Patent Law Technology", Textbook, in prep.

[211]   S. Schindler: "The Cons. of Ideas Mo. USSC's MBA-Semiotics and its Hi-Level", in prep.

[212]   R. Merges: "Uncertainty, and the Standard of Patentability", 1992').

[214]   K. O'Malley,…..: "Pat. Lit. Case Man.: Reforming the Pat. Lit. Proc. …", FCBA, 25.06.2015.

[215]   R. Chen,…..: "Claim Construct.", FCBA, 26.06.2015.

[217]   S. Schindler: "The US NPS: The MBA Framework a Rough Diamond – but Rough for Ever? Teva will Cut this Diamond and thus Create a Mega-Trend in SPL, Internat.", publ. 21.07.2015')

[225]   S. Schindler: "A PS to an Appraisal to the USSC's Teva Decision: CAFC Teaming-up with PTO for Barring Teva – and this entire 'ET Spirit' Framework?", pub 27.07.2015')

[235]   .a USPTO: "July 2015 Update on Subj. Matter Eligibility", 30.07.2015')
        .b USPTO: "May 2016 Update: Memorandum - Recent Subj.Matter Eligibility Decisions", 19.05.2016*)

[236]   Concepts, http://plato.stanford.edu/entries/concepts/.

[237]   S. Schindler: "The Supreme Court's Substantive Law (SPL) Interpretation – and Kant", publ.13.04.2016')

[238]   R. Hanna: "Kant and the Foundations of Analytic Philosophy", OUP, 2001.

[240]   USSC: PfC by Cuozzo')

[241]   S. Schindler: "Draft of an Amicus Brief to the USSC in Cuozzo supporting", publ. 05.11.2015')

[243]   M. Lee: Publ. Interview at Opening Plenary Session, AIPLA, DC, 21.10.2015.

[244]   S. Schindler: "The IEG's July 2015 Update & the "Patent-Eligibility Granted/-ing, PEG' Test", publ. 18.12.2015')

[245]   M. Lee: USPTO Director's Forum, „Enhanced Patent Quality Initiative: Moving Forward", 06.11.2015').

[246]   ISO/OSI Reference Model of Open Systems Interconnection, see Wikipedia.

[251]   S. Schindler: "Patent-Eligibility and the "Patent-Eligibility Granted/-ing, PEG' Test, resp. the CAFC Objectively Counters the Supreme Court's MBA Framework, by its *DDR* vs. *Myriad*/Cuozzo Decisions", publ. 05.01.2016')

[252]   E. Coe: "Michelle Lee Steers USPTO Through Choppy Waters", Law360, 09.12.2015")..

[257]   S. Schindler: "A PS as to the Motio Decision …..", 11.01.2016')

[258]   S. Schindler: "BRI^PTO by the USPTO or BRI^MBA by the Supreme Court?, 03.02.2016, ').

[259]   S. Schindler: "Classical Limitations or MBA Framework's Inventive Concepts?", 08.02.2016',

[260]   S. Schindler: "Patent-Eligibility: Vague Feelings or an MBA Fact?", 12.02.2016')

[261]   S. Schindler, U. Diaz, T. Hofmann, L. Hunger, C. Negrutiu, D. Schoenberg, J. Schulze, J. Wang, B. Wegner, R. Wetzler: "The User Interface Design of an Innovation Expert System (= IES) for Testing an Emerging Technology Claimed Invention (= ETCI) for its Satisfying Substantive Patent Law (= SPL)", publ. 07.03.201*)

[264]   W. Quine, see Wikipedia.

[266]   "The Chicago Manual of Style Online", http://www.chicagomanualofstyle.org.

[267]   S. Schindler, **"IDL" pat. appl.**: "THE IDL TOOLBOX", 2016, in prep..

[268]   S. Schindler, **"IES-UIE" pat. appl.**: "THE IES USER INTERFACE DESIGN"", 2016, in prep..

[269]   S. Schindler, **"FSTP II" pat. appl.**: "THE FSTP-II', 2016',·in prep..

[270]   S. Schindler, **"PEGG-Test" pat. appl.**: "THE PI GRANTING/GRANTED TEST", 2016, in prep.

[271]   S. Schindler: **"**The Supreme Court's MBA Framework" Implies "Levels Of Abstraction""",12.05.2016')

[272]   S. Schindler: **"CSIP" pat. appl.**: "CONTEXT SENSITIVE ITEMS PROMPTING",2016, in prep.

[273]   S. Schindler: "MEMO about "Mathematical Inventive Intelligence, MII ", published on 21.06.2016')

[274]   M. Flanagan, R .Merges, S. Michel, A. Rai, W. Taub: "After *Alice*, Are SW Innovations Ever Patentable Subj. Matter?"

[275]   V. Winters, K. Collins, S. Mehta, van Pelt: "After Williamson, Are Functional Claims for SW Viable?"

[276]   K. Collins: "The Williamson Revolution in SW Structure", Washington University, Draft 04/01/16.

[277]   CAFC Decision in.Williamson v. Citrix Online, 2015².

[278]   D. Parnas: "Software Fundamentals", ADDISON-WESLEY, 2001.

[279]   USSC: Transcript of its Hearing in Cuozzo on 25.04.2016')

[280]   M. Lee: Opening Statement at the Patent Quality Community Sympos. USPTO', Alexandria, 27.04.2016

[281]   USPTO: "EPQI", http://www.uspto.gov/patent/initiatives/enhanced-patent-quality-initiative-0

[282]   R. Bahr, USPTO:" Formulating a Subject Matter Eligibility Rejection and Evaluating.....", 04.05.2016').

[283]   S. Schindler: "Prototype Demonstration of the Innovation Expert System", LESI 2016, Peking, 16.05.2016.

[284]   B. Wegner: "FSTP – Math. Assess. of an ETCI's Practical/SPL Quality", LESI 2016, Peking, 16.05.2016.

[285]   D. Schoenberg: "Presentation of the IES Prototype", LESI 2016, Peking, 16.05.2016.

[286]   W. Rautenberg: "Einführung in die Mathematische Logik", VIEWEG'tEUBNER, 2008

[287]   ISO/IEC 7498-1:1994; Information technology -- Open Systems Interconnection -- Basic Reference Model:; www.iso.org

[288]   N. Fuchs, K. Kaljurand, T. Kuhn: "Attempto Controlled English for KR", U. Bonn, 2008

[289]   CAFC, Decision in *TLI*, 17.05.2016')

[290]   CAFC, Decision in *Enfish*, 12.05.2016')

[291]   S. Schindler: "*Enfish* & *TLI*: The CAFC in Line with the Supreme Court's MBA Framework", .25.05.2016')

[292]   R. Bahr, USPTO: MEMORANDUM as to "Recent Subject Matter Eligibility Decisions ...", 19.05.2016')

[293]   S. Schindler: " MRF, the Master Review Form in USPTO's EPQI, SPL, and the IES ", publ. 30.05.2016 ')

[294]   USPTO: "Strategic IT Plan for FY 2015-2018", USPTO's home page

[295]   L. Hunger, M. Weather: "The IES GUI – a Tutorial", prep. for publ.

[296]   S. Schindler: "A Comment on the 2016 IEG Update – Suggesting More Scrutiny ", publ. on 09.06.2016 ')

[297]   USPTO:" Patent Public Advisory Com., Quarterly Meeting, IT Update", 05.05.2016, USPTO's home page

[298]   S. Schindler, U. Diaz, T. Hofmann, L. Hunger, C. Negrutiu, D. Schoenberg, J. Schulze, J. Wang, B. Wegner, R. Wetzler: "The User Interface Design of an Innovation Expert System (= IES) for Testing an Emerging Technology Claimed Invention (= ETCI) for its Satisfying Substantive Patent Law (= SPL) – Including the Arguing Mode ", to be published soon.

[299]   S. Schindler: "On Consolidating the Preemptivity and Enablement Problems", in prep.

[300]   S. Schindler: "Epilog to the Patent-Eligibility Problem (Part I)", 20.07.2016')

[301]   S. Schindler: "Epilog to the Basic Patent-Eligibility Problem (Part II)", publ. 19.09.2016')

[302]   S. Schindler: "MEMO – Abstract Ideas and Natural Phenomena as Separate Causes of nPE", in prep.

[303]   CAFC, Decision in Jericho v. Axiomatics, 14.03.2016')

[304]   CAFC, Decision in Rapid Litigation Management v. Cellzdirect, 05.07.2016')

[305]   E.. Chatlynne, „The High Court's Artific. And Fictitious Patent Test Part 1", 05.07.2016')

[306]   CAFC, Decision in Re Alappat, 29.07.1994')

[307]   USSC, Decision in Diamond v. Diehr, 03.03.1981').

[308]   USSC, Petition of Certiorari, OIP v. Amazon, 12.11.2015')

[309]   USSC, Petition of Certiorari, Sequenom v. Ariosa, 21.03.2016')

[310]   USSC, Petition of Certiorari, Jericho v. Axiomatics, 10.06.2016')

[311]   CAFC, Decision in Bascom v. AT&T, 27.6.2016')

[312]   R. Bahr, USPTO: MEMO as to "Recent Subject Matter Eligibility Rulings", 14.07.2016*).

[313]   **a.** Wikipedia: "First-order logic"*)
        b. Wikipedia: "Prädikatenlogik"*)

[314]   J. Duffy: "Counterproductive Notice in Literalistic v. Peripheral Claiming", U. of Virginia, June 2016*).

[315]   J. Duffy: "Section 112 and Functional Claiming", FCBA, Nashville, 22.06.2016.

[316]   S. Schindler: "MEMO on Metaphysics vs. Rationality in SPL Precedents about ETCIs" alias on "Mathematical Cognition Theory by Far Exceeds Hitherto Knowledge Representation ", in prep.

[317]   R. Stoll: " Innovation Issues in the Americas - Subject Matter Eligibility " CASRIP, Seattle, 22.07.2016*).

[318]   CAFC, Decision in Philips v. Zoll. Medical, 28.07.2016

[319]   CAFC, Decision in AGIS v. LIFE360, 28.7.2016

[320]   S. Schindler: " Modeling the Semantics of the "Mathematical Innovation Intelligence, MII', alias 'Innovation Definition Language, IDL' ", in prep., planned to be publ. by 05.01.2017.

[321]   S. Schindler: "Epilog to the Basic Patent-Eligibility Problem (Part III)", in prep.

[322]   CAFC, Decision in In re CSB-System International, 09.08.2016.*)

[323]   USSC, Decision in Cuozzo, 20.06.2016*).

[324]   P. Suppes: "Axiomatic Set Theory", DOVER Publ., Stanford, 1972.

[325]   P. Suppes: Probabilistic Metaphysics, Basil Blackwell, Oxford and New York, 1984

[326]   H: Burkhardt, B. Smith: "Handbook of Metaphysics and Ontology", Philosophia Verlag, Munich, 1991.

[327]   G. Quinn: "USPTO handling of PI sparks substant. discussion at PPAC meeting", IP Watchdog, 24.08.2016

[328]   tbd

[329]   LAW360: D. Kappos: Modern-Day 101 Cases Spell Trouble For ATMs Of The Future, 16.08.2016

[330]   M. Holoubek: tbd

[331]   S. Schindler: "A PS to my Epilog for the PE-Problem (Part I[300] & II[301])", publ. 22.09.2016')

[332]   S. Schindler: " MEMO: The Notion of Claiming in SPL – pre and post the Aufklärung", publ. 10.10.2016')

[333]   CAFC, Decision in Intellectual Ventures v. SYMANTEC, 30.09.2016').

[334]   S. Schindler: "Two Blueprints for Refining the IEG's Update to Solving the PE Problem or A PS to my Comment on John Duffy's Essay about "Claiming" under 35 USC´, this publ. 03.12.2016')..

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

[336]   EU's Biotech Directive

[337]   EU's CII Directive

[338]   EU's Enforcement Directive

[339]   EU's SBC Regulation

[340]   S. Schindler: "MEMO: The Two § 101 Flaws in the CAFC's IV Decision, caused by the Phenomenon of 'Paradigm Shift Paralysis' in SPL Precedents about ETCIs", publ. 26.10.2016').

[341]   D. Kappos: "Getting Practical About Patent Quality", Law360, 21.10.2016

[342]   J.Herndo:"Just When You Thought the CAFC would Softening … the Tide Turns Again", PATENTDOCS')

[343]   D.Atkins: "Federal Judges Slam *Alice* at Event Honoring Judge Whyte",Law360, 20.10.2016')

[344]   CAFC, Decision in AMDOCS v. OPENET TELECOM, 01.11.2016').

[345]   R. Bahr, USPTO: MEMORANDUM as to "Recent Subject Matter Eligibility Decisions ...", 02.11.2016').

[346]   S. Schindler: "The AMDOCS Dissent Stirs up the Key Deficiency of the CAFC's pro-PE *Alice* Decisions, thus showing: The Time is Ripe for Ending the §101 Chaos! ", pub., 10.11.2016').

[347]   S. Schindler: " ROUNDTABLE ON PATENT SUBJECT MATTER ELIGIBILITY ", publ., 14.11.2016').

[348]   B. Wegner: Invited paper, "Innovation, knowledge representation, knowledge management and classical mathematical thinking", Corfu, Ionian University, pub., 22.11.2016')

[349]   B. Wegner: Invited paper, "Math. Modelling of a Robust Claim Interpretation and Claim Construction for an ETCI, - Adv. Steps of a "Mathematical Theory of Invention"", Bangkok, ICMA-MU, 17.-19.12.2016')

[350]   S. Schindler: "The IES Qualification Machine: Prototype Demonstration", 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 Qualification Machine ", GIPC, New Delhi, 11.-13.01.2017')

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