

An Amazing SPL Cognition: Any Patent (Application) may be Drafted Totally Robust — Memo B: About “Inventive Concept(s)” —

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Mission statement of this Memo B:

Led by the US SPL and the Supreme Court's framework for drafting ETCLs — requiring testing them by increased rigor on a higher level of understanding ETCLs' needs — all other national SPLs (lagging years behind the US), will join this flavor of the SPL as there is no other way to get IPRs in ETCLs democratically under safe control. This US SPL's rigor enables semi-automatically drafting/testing totally robust patent(application)s for ETCLs. This work shows why patent business is thus really facing the international groundbreaking shake-up of^{f9,bj}, ending-up — as historically any innovative paradigm shift — in increased social qualification and wealth.

By the MBA framework's 'refined claiming' all ETCL patent(application)s may be drafted totally robust.³⁵⁴ This Memo B shows how this is enabled, in any innovation-economy, by basing ETCLs' specifications on their 'inventive concepts'.

I. About this Memo B: The Supreme Court's “Inventive Concepts” in “Innovation-Economies”^{1.a)}

This Memo B³⁵⁵ discusses the notion of •**inventive concept(s), inC(s)**, key for drafting/testing totally robust patent(application)s for ETCLs (= **Emerging Technology Claimed Invention**) by the Supreme Court's MBA framework flavor of SPL (= **Substantive Patent Law**). Memo B has been prepared by Memo A³⁵⁴, which already showed this inC notion's potential as to •**refined claiming** and **patent eligibility, PE**. Memo C³⁵⁶ will show: •The empirical EPQI/MRF^{a)} data collected by the USPTO, creates by the IES's^{b)} (semi-)automatic guidance the chance to dramatically accelerate proliferating/acquiring **refined claiming qualification** to/by ETCLs' inventors/investors/managers/licensees(ors)/examiners/judges/....

Section II of this Memo B focuses on this powerful notion of inC(s). **Section III** very briefly comments on 3 current statements by the patent community and their relations to totally robust patents^{b)}.

II. The Supreme Court's “Inventive Concepts” for Drafting/Testing ETCLs' Total Robustness

Section II is an expanded excerpt from^[334,353] of what a patent practitioner needs to know about the fundamental notion of **inventive concept(s)** — indispensable for drafting a totally robust ETCL.

II.1: All SPL Notions for ETCLs are 'inC-based' — Alice's PE Analysis, ETCLs' Total Robustness, ...

Grasping inCs is achieved best by noticing that the **“Alice transformation”** of an nPE TT0^{c)} into a PE ETCL by the *Alice* decision's PE analysis is the inverse mapping of this PE ETCL by its test for satisfying SPL to this nPE TT0 — this mapping being defined by a trivial rewriting of^{354/FIG2} so that its test⁴ determines its result (being this nPE TT0). For Meta(rationality)^{4,c)}, the *Alice* transformation and its inverse must hence be described by inCs^{ll,9}. It •**fences^{d)} TT0's unlimited preemptivity^{e)}** in by the ETCL's limited preemptivity, in that •**the ETCL ties TT0 to an application of itself, which is 'independent of TT0' and 'preserves TT0's integrity'**.

NOTE: An inventive concept is a mental instrument capable of defining any detail of an ETCL^{f)} — whereby all these notions are to be understood (meta)rationality^{4,c)}.

^{1. a} Abbreviations/ideas/arguments from preceding memos, e.g.^[300,301,353,343,....,354], are often not repeated, here, as assumed to be known. In practice, no written brief or vocal presentation would use the complicated (as exact scientific) language of this memo to thus clarify the notion of **“inventive concept”** (introduced by the Supreme Court's *Mayo* decision and confirmed by its *Alice* decision) and leverage it. Instead, simple and short sentences of the usual colloquial language and its shortcuts/abbreviations would be used there.

^b The **“Facts Screening/Transforming/Presenting, FSTP”^{ll,2)}** based **‘Innovation Expert System, IES’^{ll,9,b,350)}** uses vastly mathematized SPL, ETCLs, and SPL precedents. It is the worldwide sole (prototype of a) system, accessible from May on, enabling (semi-)automatically and absolutely correctly representing/processing SPL, ETCLs and SPL precedents about hitherto complex US SPL issues. FSTP-Technology and totally robust patents have been enabled by the Supreme Court's SPL paradigm refinement by its *MBA* framework for ETCLs — for seriously incentivizing sustainable engagements in & investments into R&D for the US innovation-economies, in particular into bio-economies or fundamental infrastructure technologies, totally robust patents are probably indispensable.

^c — i.e. a TT0^{e)} being an invention and embodying an exceptional inC^{3,h,ll,8)} rendering it unlimited preemptive^{c,4,d)} or being unlimited preemptive without embodying an exceptional inC (in both cases causing TT0's being nPE, as it otherwise may jeopardize the NPS, as *Mayo* explains) — This ‘outer shell’ PE approach^{2,b,2)} to explain the notion of ETCLs' inventive concept(s) is in line with an extension of JDE^[314,331,332,334,320], both clearly striving for Rationality as defined by^{354/2,h)}, by its definition comprising consistency.

^d in System Design^{ll,2)} one would say: “The ETCL encapsulates by its li-pre TT0's ul-pre^{e)} in that it ties TT0 to an application of itself, which ... and ...”.

^e An ETCL^{ll,9)} is called **‘unlimited preemptive, ul-pre’** iff its TT0 has an unpredictable & anytime unlimited expanding scope^{c,ll,10)}; •**limited preemptive, li-pre’** iff its such TT0 (i.e. its unlimited preemptions) is(are) fenced in by tying it(them) to one of TT0's applications not limiting & independent of it^{e)}; • **‘nonreally-preemptive, nr-pre’** iff no unlimited preemption exists^{4,d)}. TT0's ul-pre follows from its nPE — as if TT0 were li-pre, it can't be nPE (as this required TT0 fails passing the FSTP-Test^[345/FIG2] and hence is not an **“invention”**, whereby this term represents the meaning of a metarational generalization of the rational notion **“ETCL”^{ll,9)}**, 4.d)

^f The correctness of this cognition may be logically proven by assuming there were an ETCL and for it a truly finer description instrument (than its K independent E-crCs) disclosed by its specification, called ETCL's K>K **‘slides’**, the logical conjunction of which models the ETCL's total inventivity^{ll,2)}. Then these K' slides contradict the definition of the ETCL's K E-crCs by their **‘nonrefinability axiom’^{3,a)ll,320)}**.

II.2: An ETCl's inCs disclose ex- or implicitly by its patent specification its total inventivity.

The "inC" is the groundbreaking and indispensable notion that enables refined claiming of an ETCl^{2.a)}. Its "total inventivity" and the latter's KR are defined by logical conjunctions of certain such inCs resp. their crCs^{II.7-10}, any crC being described on 1 of 3 different ETCl-specific levels of notional resolution^{II.4/II.7}.

A patent specification may disclose for one of its ETCl's one or several sets of inCs alias different "compositions of inCs, COM(ETCl)s"^{II.5}, each making up this ETCl's total inventivity^{II.2}, being for it a single or finitely many different descriptions, i.e. 'interpretations'^[354/3.a-h] — all of them assumed to represent the same invention^[6,7,45,142], i.e. the same 'scope(ETCl)'^{II.9}. Otherwise this ETCl is "indefinite"^[354/3.a-h].

II.3: An ETCl's COM(ETCl) enables its Meta(rationality)^{4.c)} — its limitations don't.

Any inC of an ETCl defines metarationally^{II.9, [354/2.h, 320]} a model-based increment that contributes to this ETCl's total inventivity^{II.2}, the logical conjunction of any of its COM(ETCl)s.

This enables an ETCl's refined description by its inCs – in contrast to any of its classical descriptions by its limitations^{a)} – leading to several big advantages over the latter. One of them is that the description of an ETCl by its inCs is much more concise than the one by its limitations. Namely, considering both these descriptions as being two specifications of this ETCl, one immediately sees: The ETCl's description by its inCs defines all necessary and sufficient requirements to be met by this ETCl, while the classical ETCl description by its limitations defines only the necessary requirements to be met^[354, FIG1]. This would not be a problem if these necessary requirements were complete in the sense that they also dealt with exceptional inCs in an orderly manner — which they cannot do, as explained in^{a)}, II.1, [354/III].

^{2. a} An inC need not be quoted by the claim's wording of an ETCl, if only the latter's specification im- or explicitly discloses its meaning and the certainty that the latter is part of the ETCl's total inventivity (see the CAFC's *DDR* case^{III, [156, 160]}). This finishes the linguistically and logically age-old nonsense that "limitations must not be imported from a specification into a claim's wording": Any meaning association to a wording namely must be imported from this wording's interpretation basis! In case of patents, this interpretation basis is quite generally the SPL as interpreted by the Supreme Court, the posc, and their specific specifications (resp. their inventors, too^{2.b.1)}).

The higher degree of exactness/preciseness/completeness^[354/2.a-h] and scrutiny, indispensable in refined claiming^[354/3.a-h] of most ETCl's, is not only due to their invisibility/fictionality, hence necessarily being model-based for enabling these 3 attributes of ETCl's specifications/descriptions. It is also due to the ETCl's often being located in a vastly unknown environment. I.e.: Any ETCl embodies (in addition to its often more than 1 classical totally ordinary/rational/mathematical crC) at least 1 at least partially invisible/intangible/fictional, definable often metaphysical crC, which therefore is definable only by means and on top of a fictional model^{II.8}, the definition of which embodies Metaphysics to an extent as needed for enabling it to encapsulate^{1.d)} — seemingly eliminating or "abstracting away" any Metaphysics^[320], i.e. rendering meta(rational)^{4.c)} the E-crC thus being defined. 'Low Metaphysics' is part of any ETCl^[320] as clearly comprehensible — while high (i.e. 'speculative') Metaphysics and the more the Transcendence have no relation to mathematical KR. Historically, the patent community has never dealt with anything like this.

By contrast, initially Kant and later Analytic Philosophy and the related foundations of Mathematics, Physics, ..., and finally of IT are used to struggling with pushing back the boundary of Rationality and Mathematics into Metaphysics by **dramatic paradigm shifts** — as it here the Supreme Court requires for reinterpreting the US SPL in favor of ETCl's, i.e. with its implied change-over from classical claiming to refined claiming (being again **outer shell based** claiming, see JDE^[314, 332, 334, 340]). Without some familiarity with such historic paradigm shift struggles it is often impossible, even for excellent legal personal, to become aware of all the Metaphysics in classically claiming ETCl's (especially as to its evident disastrous feedback of the social consensus any NPS depends on). If therefore the US Congress should fall back into Metaphysics as to US SPL — as often asked for in the patent community^{III} — the rest of the world will not, as with the US innovation-economies^{II}.

These difficulties are transitional: They will rapidly be overcome by the overwhelming advantages of total robustness and automation — many more^[9.b] than these 2 — in dealing with SPL precedents about ETCl's the 'MBA framework way', i.e. by refined claiming.

This applies also to the difficulties resulting from this refined claiming alias FSTP-Science/Technology due to its high volume of refined SPL knowledge and its high degree of notional intermeshing, complained about by opinion-leading US judges. This complaint about the high volume and its high intermeshing holds equally for Physics, Chemistry, Biology, ... — i.e. these are indications that 'Facts Screening/Transforming/Presentation' is a very fertile science, based on the first subphysical exact technology^[9.b]. The Memo C^[356] will elaborate on this issue.

A crC definable only on top of such a model — pretending to absorb the Metaphysics that this crC represents — models a **natural phenomenon** and/or an **abstract idea** embodied by its ETCl^{II.8}. I.o.w.: Any ETCl is always notionally defined on top of models^[320] defining its such property — the first one not existing with a CTCl's (s) specification) and the second one representing a CTCl's under- or contradictory specification. I.e., all crCs of any CTCl represent only nonfictional properties definable exactly/precisely without a model. This has been hitherto unnoticed by the patent community, yet evident in all 6 MBA framework decisions.^{II.8} Natural phenomena exist in *KSR* (= its body of the fictional driver) and in *Mayo* and *Myriad* (= their medical phenomena), and an abstract idea in *Biosig*, *Bilski* and *Alice* (= if the alleged under-specification of the distance between its electrodes exists, its hedging, and its transaction settling).

- b.1 Justice Ginsberg**^[127] (BR^{USPTO} untenability): "It cannot be sufficient that a court can ascribe **some meaning to a patent's claims ... post hoc**", and Constitution authorized "...to inventors the exclusive right to **their discoveries**, ..." (highlights added, by IES implemented^{b.3)})
- b.2 Justice Breyer**^[69] (as to the pre-Alice use of the *Mayo/Bilski/Myriad* framework in PE cases): "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 [being the natural phenomenon of a boats' water displacement]. All right. 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 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..." (highlight added, FSTP^[2] refines this outer shell's content^{3.a)}, the IES implements this outer shell and its refined content^[261])
- b.3 Chief Justice Roberts**^[279] (as to the coexistence of the BR^{USPTO} and the BR^{CAFC} of the *Phillips* case^{3.a)}): "...it's a very extraordinary animal in legal culture to have two different proceedings addressing the same question that lead to different results. I'm sorry. It just seems to me that's a bizarre way to decide a legal question." (if the IES'es questions are correctly answered, it excludes using the BR^{USPTO}^[261])

II.4: An ETCl's COM(ETCl) is its KR^{3.a)} on its O-/A-/E-levels of notional resolution.

The *MBA* framework's notions cognitively require^{2.b.2)} their KR's on these 3 levels of abstraction, i.e. resolution^{b)}. Otherwise they are too coarse for reasoning about ETCl's as rationally^{11.9} as required^{2.b)}.

Prior to starting this reasoning, this refinement of its inCs is often inevitable. Ideally this refinement is performed before this start, but practically it will be performed iteratively overlapping with this reasoning over the ETCl. These refining steps take place on 3 levels of notional resolution: •On the ETCl's notionally "**original, O-level**" making one aware of the information in the ETCl's original representation. Thus the ETCl's specification of its patent (application) enables vaguely identifying N O-inCs making up the ETCl, being the coarsest as vastly metaphysical level of notional resolution. •On a lower "**aggregated, A-level**" of notional resolution of this information about this ETCl, refined such that it already enables a precise yet still aggregated/compound description of this metarational information by mathematical A-level predicates — representing one-on-one the preceding N O-inCs. Finally: •On a lowest "**elementary, E-level**" of further refined notional resolution of the ETCl's preceding A-level information, whereby this refinement moreover enables disaggregating the compound A-inCs (i.e. their compound A-level predicates) into equivalent conjunctions of their rational elementary E-inCs (mathematical E-level predicates)^[320].

After this declarative description of how to structure all the SPL KR about an ETCl — eventually embodied by all O-/A-/E-level inCs modeling this ETCl^[271] — the next 3 bullet points outline how its procedural/executable KR is gained, as ex- or implicitly required by all the Supreme Court's *MBA* decisions^[354/11]:

- **1. step:** Create ETCl's N "ETCl-elements, Xn"^{4.b)} — this invention's supporting pillar(s) are indicated by keywords in the ETCl's specification, are the same on all 3 levels, and accordingly separate ETCl's "O-level concerns"^[354, F16] from each other — and their N O-level inCs. This is trivial, once ETCl's specification exists. Prior to that this potentially manifold creative process is highly metaphysical. Input these N O-inCs — together with their Xn's being the ETCl's "**outer shell**", by the Supreme Court identified since longtime^[314, 331, 332] — into the IES^[9, b, 283, 350, 332, 320];
- **2. step:** Refine these vague N O-inCs^{11.4} to mathematical predicates A-inC(s) describing them precisely. Input them;
- **3. step:** Refine any of the N A-inC to a conjunction of its E-crC(s)⁹⁾. Any E-crC models an 'atomic', i.e. 'non-disaggregatable' alias 'unrefinable', notion⁹⁾ disclosed by ETCl's specification. COM(ETCl)'s O-/A-/E-inCs is/are definable in the "**Innovation Description Language, IDL**", a syntactically & semantically very restricted natural English language, as a 'conjunction' of so described E-crCs (and potential E-ncrCs). Input them into the IES^[9, b, 283, 320, 350].

^{3. a} This exactness/preciseness/completeness assertion^{b)} by the inventor of his/her ETCl description/KR — by the Supreme Court's *Biosig* decision^{2.b.1.2.b.3)} required — is often impossible if its properties are modeled instead by its crCs only by its limitations^{11.3}, i.e. if only its necessary but not its sufficient properties are used for describing the ETCl. Its vastly metaphysical O-level crCs evidently represent the ETCl's outer shell^{2.b.2}, hence being also vastly metaphysical. "**pposc**" stands for the 'person of pertinent ordinary skill and creativity' stating these qualities.

^b "**Exact**"^{a)} stresses this KR's seamlessly matching all *MBA* framework notions (indispensable for ETCl's total robustness) and "**precise**" / "**complete**" this KR's factually not staying within the metaphysical pre-*MBA*SPL semantics, but its being rational/mathematical⁹⁾.

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 otherwise unachievable consistency, predictability, and robustness in SPL precedents about ETCl's^{2.b)}.

^c as they enable determining an ETCl's definiteness, PE, and patentability — for mathematical E-crCs even automatically by the IES^[350].
^d — in addition to modeling/disaggregating/checking an ETCl by them —

^e The "**nonrefinable axiom**" of independent thoughts is defined as the Plato/Kant-like cognition about rational human perception, namely that '**1 of its independent thoughts rationally represents exactly 1 E-crC**'^[6-8, 64, 142]. Thus, A-crCs often do not meet this notional "**atomicity**" requirement to represent only 1 independent thought, yet are rationally definable by conjunctions of their E-crCs.

This atomicity requirement holds also for any exceptional E-crC, as its indispensable model defines axiomatically, what its atomic meaning is, here always supposed to be an independent meaning representable by an independent thought^[320]. By contrast, what the meaning is of the independent thought of an ordinary E-crC should always be trivial for human perception.

The notion of an independent thought was created by the German BGH's *Gegenstandstraeger* decision (1996) in a CTCl non-obviousness case (after several quite similarly justified nonobviousness BGH decisions, which all then went unnoticed by the German patent community^[6, 7, 9, 237]). The BGH never became aware of the enormous notional potential of this cognition.

Accordingly, any E-crC modeled notion is '**atomic**'=**unrefinable**'. This does not imply that the elements of the TS^{4.a)} modeling an E-crC must be finite on all levels of notional resolution: This TS may consist of finitely many e.g. intervals of real numbers (being infinite sets). If the ETCl's specification doesn't disclose for the pposc "enough" such 'only 1 independent thought representing' E-crCs — it is unknown whether such ETCl's exist at all — this ETCl is called "**pathologic**" and is ignored here^[5-7]. The peer E-leCs are finite.

^f automatically translatable into an SPL based "**Legal Argument Chain, LAC**"^[152, 268] for human perception in various multimedia KR's.

^g This implies, for any E-inC, separating its SPL aspects from its factual aspects. 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.

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 ETCl'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-leCs are finite conjunctions of E-leCs enabling rationally reasoning about any ETCl by finitely many LACs⁹⁾, being of the same structure for all ETCl's. This is another key cognition by FSTP-Technology about totally robust patents^[354].

Note that an ETCl-element's A-/E-leCs do not model all its legal properties: They model only those of the isolated A-/E-crCs — while the ETCl'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 ETCl for any SPL property whatsoever.

^h While ordinary inCs are constant over time (i.e. are deterministic) and fully rational, exceptional inCs are assumed to be metarationally indeterminate and hence to be potentially expanded over time (natural phenomena) or additionally a priori (abstract ideas)^{4.d), 11.8}. Hence, any natural phenomenon is a special abstract idea, and both may be mathematically modeled as shown in^[9, b)].

II.5: An ETCl's claim interpretation is defined by its COM(ETCl)s.

The COM(ETCl)^{II.2} is the data structure of an ETCl's A-/E-(n)crCs that the PEDAs-Test shows in^[354/FIG2/test1].

NOTE: If an ETCl's claim interpretation by the pposc leaves it with two different (for the rest definite) meanings, the *Biosig* decision^{2.b.1)} implies the requirement that if both (then different) COM(ETCl)s logically

- exclude each other, the ETCl's inventor must determine which of them represents his/her invention,
- otherwise both jointly^{II.10} represent his/her invention — rendering the ETCl definite in both cases.

II.6: An ETCl'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 simpler ones. Yet both kinds of concepts serve the same basic purpose, though of opposite "polarities". Namely: Exactly/Precisely/Completely describing how new compound concepts are to be aggregated by conjunctions from more elementary ones given, resp. how given compound concepts are to be disaggregated into conjunctions of known or new atomic ones. An ETCl's KR by its O-/A-/E-inCs of a COM(ETCl) facilitate *MBA* framework-based (semi-)automatic decision making about this ETCl, as the atomic E-inCs are totally mathematizable^{4.a)} — while AIT-concepts may aggregate higher level concepts starting with non-mathematizable ones, thus often too complex for this purpose (hence skipped here).

II.7: Any E-inC.ik is a pair "<'E-legal-concept, E-leC.ik', 'E-creative-concept, E-crC.ik'>"^{3.g)}.

O-/A-inCs have the same paired structure as E-inCs — which is skipped here for simplicity. Thus:

- Any E-leC is 'ETCl nonspecific', a priori defined on top of what is the single 'SPL-model'^[320] for all ETCl's, here provided by the IES and, when prompted by the IES, by an icon (potentially of multiple choice) selected by the IES user. It is, for $1 \leq o \leq 10$, the stereotypical legal justification of FSTP-testo^{[354/FIG2],3.f)}.
- Any E-crC is 'ETCl 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"^[320] — by the ETCl's specification potentially disclosed for the pposc, being the same for a COM(ETCl) in^[354/FIG2] for all 10 FSTP-testo's.

II.8: An ETCl's inventive concept is on the A-/E-levels of one of 3 (meta)rational^{c)} kinds.

These 3 kinds are defined resp. necessarily implied by the Supreme Court's *MBA* decisions: ●'ordinary' inCs for modeling the CT subject matter an ETCl comprises, ●'exceptional' inCs^{3.h)/5.b)} for modeling the ET subject matter also comprised by ETCl, making it nonPE because of its then totally unpredictable scope^{II.9} expansion^{d)}, unless it has a specific structure^{II.9}, and ●this ETCl's '*Alice*inC(s)'^{II.10}, being a set of its application's^{II.9} ordinary E-crCs warranting the encapsulation of an embodied nPE TT0^{II.1,II.9,[354]}.

^{4. a} All preceding titles' SPL notions are metaphysical, i.e. of pre-*MBA*/classical quality of thinking, of some of which their refinement to post-*MBA*/refined/rational/mathematical such qualities has been indicated — but for other important SPL notions^{II.10} hitherto no rationalization or mathematization has ever been provided, i.e. of their post-*MBA*/refined and partially or fully mathematical such quality^{5.b)}.

Hence, a remark about the mathematization of an inC is in place. An *Alice*inC^{II.8} is a nonempty set of ordinary inCs. An ordinary or exceptional inventive concept^{II.8} C is notionally & mathematically a mapping $M(TS(C))$ of a "Truth set, $TS(C)$ " of a superset "domain, $D(C)$ " of $TS(C)$ onto the set $\{T,F\}$. I.e., here only **binary** concepts are used and M is called "**predicate**", defined on $D(C)$, and mapping $M(TS(C)) \Rightarrow \{T\} \wedge M(D(C) \setminus TS(C)) \Rightarrow \{F\}$; the components of $\langle C, TS(C), M(TS(C)) \rangle$ mirror each other. Semantically, an inC models a property of an ETCl-element^{b)}, whereby here only E-level concepts are explained, as A-/O-level concepts are their **conjunctions**^{3.e),II.4}.

^b For an ETCl (having N ETCl-elements $X0n, 1 \leq n \leq N$) an E-inC's E-crC^{II.7} models by its $D(E-crC)$ a "new" atomic property^{3.e),II.4} of an '**ETCl-element, $X0n$** ', $n \in [1, N]$, whereby the elements of $D(E-crC)$ represent these properties of $X0n$ — one of them often being (but not recognized as such property) that finding this $X0n$ is an increment of the total inventivity of the ETCl, i.e. an E-crC. Its E-leC(s) model(s) by its/their $TS(E-leC(s))$ ^{II.7} the "arguable sub tests, ASTs" showing that this E-leC's sibling E-crC is disclosed by the ETCl's specification.

These inC definitions for an ETCl are located in Metarationality, which is actually used by the Supreme Court's *MBA* framework decisions — in general already much more concise than "analog" claiming, to use an ironic metaphor for classical claiming — while Rationality is achieved if their sets are defined, and Mathematics if these sets are well-defined, i.e. are axiomatized^[9.b, 320].

From the of cognitional point of view, this metarational refinement of *MBA* framework-based claiming fully sufficed for inducing

- rationally refining classic claiming and
- developing the FSTP-Technology and the IES^[9.b], i.e.: In this specific area of law, in "SPL of *MBA* framework flavor", it is fortunately possible to increase the quality of reasoning to rationality — insofar being seemingly unique, presently — and to potentially even define all its notions fully mathematically and ETCl's totally robust.

The FSTP naming philosophy for inCs slightly differs from that in the Supreme Court's *Alice* decision — caused by the need of higher systematization of naming, due to here dealing with 3 levels of notional resolution for describing an ETCl exactly/precisely/completely, while the Supreme Court reasons on the O-level^{2.b.3)} exclusively — absolutely sufficient for being "direction pointing". This refinement of naming is part of the invitation^{2.b.2)}, which evidently applies to all *MBA* framework decisions.

^c the string '**meta(rational)**' in a statement qualifies it as holding if it is '**metarational**' as well as if it is '**rational**', the latter meaning '**mathematizable**', thus not yet mathematical as defined by^[354/2.b)], i.e. enabling this statement's mathematical correctness proof. I.e.: If a statement is qualified meta(rational) this means, it is rationalizable (which means its metaphysical aspects may be totally eliminated).

^d Especially the Supreme Court's *Mayo* and *Alice* decisions require that a ul-pre^{1.e)} TT0 is nPE (as potentially threatening the US NPS), while li-pre just as nr-pre ETCl's are left PE (as not embodying this the US NPS threatening potential). The *Alice* analysis meets the innovation-economies' needs, as being the least PE restriction imposed on ET inventions^{1.e)} ●on the one hand indispensable for excluding their such potential threatening, and ●on the other hand already enables drafting for an ETCl a totally robust patent (provided it meets all the other *MBA* requirements).

The preceding Subsections II.1-8 described the notion of an ETCI's inCs as such and their use for rationalizing the creative&legal properties of its ETCI-elements^{4.b)} (including its precise KR on its O-/A-/E-levels of notional resolution) and outlined the 3 inC kinds of a COM(ETCI) ::= {E-crCk / 1 ≤ k ≤ K^{[354/FIG2]/5.a)}} needed to this end. Subsections II.9-10 now show: These E-crCs enable rationalizing also an ETCI's ●refined SPL test (which, as it is the inverse of the *Alice* transformation^{II.1}, represents a totally robust patent for it^{b)} iff the ETCI passes it) and its ●scope(ETCI) — hitherto being metarational only.

II.9: An ETCI's COM(ETCI) enables rationalizing^{4.c)} its refined SPL test alias totally robustness test. In^[354] the metarational power of refined inCs-based claiming is shown, i.e. the ETCI's inCs^{c)} enabling the metarational refined *Alice* transformation — next also its being rational^{4.c)}, impossible if not inC-based^{d)}.

- ^{5.a} for brevity, the index "0" in the crCs, identifying TT0, is often omitted just as other indexes, without being noticed. How the A-crCn, 1 ≤ n ≤ N, are combined from the E-crCnk, 1 ≤ k ≤ Kⁿ, is described by the index n (also left out). This applies to the term 'COM(ETCI)', too.
- ^{5.b} as the refined SPL test is, for drafting the specification of an ETCI's patent, its complete skeleton, which is delivered by the IES when prompting the inventor (or his/her proxy) for inputting its COM(ETCI), i.e. during & after the ETCI's claim interpretation and then testing it^[354/FIG2] — as structurally being the same \forall ETCI — of which the inventor is only supposed to fill the gaps for facts in "IDL English"^[320].
- ^{5.c} The *MBA* framework decisions may use any COM(ETCI) of an ETCI^[354/FIG2] — i.e., it suffices that only 1 of its COM(ETCI)s passes this PE test for determining that this ETCI is PE. Nevertheless, it is then testable as to its patentability by^[354/FIG2/test18-10] only for this COM(ETCI). I.e., its PE just as its patentability may depend on the COM(ETCI) selected.
- ^{5.d} as any ETCI is precisely describable only by its E-crCs^{1.f)} — logically impossible, if the ETCI's KR alias COM(ETCI) comprises a limitation.
- ^{5.e} "<X,Y>" denotes a pair of items X and Y — "(set1|set2)^{1-set2}" the set of \in set1 "independent" of set2, colloquially "orthogonal" to it^{f)}.
- ^{5.f} Many patent experts have often considered this interplay between an ETCI's COM(ETCI), its application ANoTT0, and its *Alice*EANoTT0-crCS to be a flaw in the Supreme Court's *Alice* PE analysis — as allegedly obscurely tying an ETCI's PE to its nonobviousness or alike. Yet there is no such flaw or obscurity with the *Alice* PE analysis. The *Alice* transformation^{II.1} solely draws several logically/systematically clean cut and necessarily filigree consequences for imposing the minimal restriction (on getting applications of all nPE TT0s transformed into PE ETCIs, i.e.^[300,301] the ETCIs being li-pre or nr-pre^{1.e)}) on such all but unusual interplays occurring with ETCIs. The ETCI's eventual patent holds only for an ANoTT0 and an \in (E-crCSETCI|E-crCSTT0)^{-E-crCSTT0} — still potentially being an infinite set ASNoTT0 ::= {application of TT0 : [RTS(E-crCSTT0) ⊆ RTS(E-crCSETCI)] ∧ [(E-crCSETCI|E-crCSTT0)^{-E-crCSTT0} ≠ ∅]} : as far as lawfully & enablingly disclosed by the ETCI's specification and passing the refined *Alice* test's rest^{II.1}. The independence alias "significantly more"^{[300/2.b)} requirement (E-crCSETCI|E-crCSTT0)^{-E-crCSTT0} ≠ ∅ is decisive: *Mayo*&*Myriad*^{SupremeCourt} did not meet it, *DDR/Myriad*^{CAFC} did^[160,163]. It also is not met in^[362], rendering this PTAB decision untenable^{8.c)}/^[364].
- Any change of this interplay would render an ETCI either potentially threatening the US NPS or impose on it a non-minimal restriction — the former iff the preceding definitions are relaxed (as currently practiced by the CAFC in *Enfish/TLI*..., comprising at least 2 oversimplified interpretations of the *Alice* analysis, "a pre-and a post-precondition error", as shown in^[354/p.5]), the latter iff they are tightened.
- ^{5.g} Note here: At first glance it seems that this sentence's statement "... by COM(ETCI) the inverse of the *Alice* transformation^{II.1} is even rational" also trivially follows from its preceding sentence. But this were a wrong assumption quite similar to the famous one in the foundation of today's Mathematics, namely that it were trivial to precisely define what the meaning is of the notion "set" — for more than 2000 years metarationally assumed to be evident and since then being one of the intellectual pillars of Mathematics. But by the end of the 19th century it was discovered that this assumption is wrong (more kindly: metarational), and it then took the mathematical community until about 1930 before a rational — and then nontrivial — definition of this notion "set" eventually was provided. Here it also turns out in^{9.f)} that the just quoted statement does not trivially follow from its preceding sentence. That the 'Supreme Court friendly part' of the US patent community clearly appreciates^{III} an even much less precise meaning of 'metarational' in dealing with ETCIs, e.g. as to their testing for being PE, is not surprising: It did not notice the pitfall of tolerating Metaphysics: that achieving rational consistency in SPL precedents about ETCIs is thus 'from the outset' not achievable. I.e., the attempt to get along in such metarational kind of SPL precedents about ETCIs would inevitably lead to their unpredictability and hence preserve the patent community's frustration — for the termination of which the Supreme Court provided its *MBA* framework^{2.b.1-3)}. Thus, this attempt is excluded by the *MBA* framework, iff it is rational — which is achievable (as proven here) iff it is notionally refined as shown by^{II.4}. In more detail: For getting its *MBA* framework rational, in⁹⁾ has already been shown that 2 potential flaws — potentially leading to a pre- and/or a post-precondition error⁹⁾ in interpreting the *Alice* analysis — are avoided by not relaxing the above definitions. In⁹⁾ will be shown next that and how also the remaining 'logical hole' (caused by a logical glitch) is avoided in this rationalizing process.
- ^{5.h} The 2 deficiencies quoted in⁹⁾ of metarationally interpreting the Supreme Court's *Alice* analysis, i.e. in metarationally determining e.g. an ETCI's being PE, wouldn't have occurred, if the CAFC had not restricted itself in its decisions (quoted above) to Metarationality but completed its decisions to/by Rationality. The additional and even more subtle potential deficiency is due to the same reason, i.e. metarationally interpreting the *Alice* analysis, but of at least the same severity and is also excluded by Rationality. To become aware of this pitfall of Metarationality, it helps to understand that earlier FSTP papers^[5,6,7...] already qualified ordinary E-crCs^{II.8} as being of "patent law carrying semantics, plics" and exceptional crCs^{2.a)}/^{II.8} as being of "patent monopoly granting pragmatics, pmgp". By *Mayo* holds: While any plics alias ordinary E-crC \in COM(ETCI) increases by "1" the ETCI's rational "semantic height over" (= "semantic distance from") a "Reference Set, RS" of prior art (i.e. inventions or posc) lawfully and enablingly documented & disclosed — iff for simplicity assuming any such E-crC is comprised by only a single A-crC therein (w.l.o.g) — any pmgp alias exceptional E-crC \in COM(ETCI) does not increase the ETCI's such height. This shows: This Metaphysicality problem is represented by a "logical glitch", either due to specifically non-factualizing an indeed factual issue in the ETCI's specification and/or, more generally, to assuming something about the ETCI (e.g. "as a whole") but not rationally describing this by the specification — in both cases implying a decrease in the ETCI's semantic height over RS, potentially rendering it obvious or the contrary. Excluding this logical glitch requires inserting the "KSR test" (of FSTP flavor), behind the PEDA-Test^[354/FIG2/test9] & the ETCI's AN-matrix based, the 'Anticipation/NonA' values of its elements $\Delta^{i,n,k}$ being rationally determined (if necessary by the models defining the E-crCs and their $\text{mod}(\delta(\text{ETCI}))$: COM(ETCI) is "E-crC(i,n,k)-wise A or N", meaning: $\forall \Delta^{i,n,k} ::=$ if (E-crCink = mod $\delta(\text{ETCI})$) E-crC0nk "A" else "N"). I.e.: There is no metaphysical such property of the ETCI, but any such alleged property must eventually belong to one or several ETCI-elements — otherwise this property is rationally not existent. Not eliminating this glitch — by not using the Supreme Court's *KSR* test as done here — means here not eliminating eliminable Metaphysics^{4.c)} as to the ETCI's patentability by not refining COM(ETCI) and RS, but considering them solely on the O-level. In the Supreme Court's *KSR* decision, this logical glitch occurred explicitly and was metarationally eliminated on the O-level (as the patent holder didn't leverage e.g. the driver's size as an important fact) and in the '*Alice* inventive concept' this potential logical glitch, on the O-level principally inevitably present, is not at all addressed. Hence under scrutiny, the CAFC's PE decisions in *DDR/Enfish/TLI*... had to consider this issue for eliminating any residual Metaphysics from their current error-prone metarational KR — as the Supreme Court eventually probably expects^{2.b.1-3)} — as discussed in more detail by^[320].

For an nPE TT0^{1.c}, *Alice* defines an "ETCI" – in the IEG called "patent-eligible subject matter" – to be¹¹

"ETCI ::= ETCI(TT0) ::= ETCI(TT0, A^{NoTT0}) ::= <A^{NoTT0}, *Alice*E^{A^{NoTT0}-crCS}>^{5.e} whereby

- A^{NoTT0} ::= an "application of the nature of TT0" ::= RTS(E-crCS^{TT0}) ⊆ RTS(E-crCS^{ETCI}),^{5.f,11.10} and
- *Alice*E^{A^{NoTT0}-crCS} ::= an "inventive *Alice* concept of ETCI" : ∈ (E-crCS^{ETCI} \ E-crCS^{TT0})^{⊆ E-crCS^{TT0,5.f}} with all acronyms and "L" known from^[354]11.3 and ex- or implicitly disclosed for the pposc^{3.a}) by the ETCI's specification.

It is next to trivial to verify that this "<...>"-term is just a refined KR of the Supreme Court's *Alice* analysis. By looking at it from the point of view of its result, it metarationally performs an ETCI's refined PE test^{11.1}. It is nontrivial to prove that by COM(ETCI) the inverse of this *Alice* transformation^{11.1} is even rational.

Nevertheless, the proof of this rationality is here explained in its filigree details^{5.e-h}), as it represents the all changing 'quantum leap' in SPL precedents about ETCIs presented by this Memo B.

11.10: An ETCI's COM(ETCI) enables the (meta)rational^{4.c}) definition of an ETCI's scope.

The refinement of SPL precedents about ETCIs from the hitherto metaphysicality/metarationality to additionally rationality/mathematicality enables several practically extremely important advantages — first of all to •drafting/testing totally robust ETCIs^{11.9,[354]} mathematically proven to meet all SPL requirements, •leading provably correct infringement litigations of such ETCIs^{11.10}, and •automating much of such ETCI business^[9.b] — by far overcompensating the cost caused by these innovations^[9.b]. This holds especially as they proved their trustworthiness by identifying and clarifying, in the here preceding discussions, several hitherto unnoticed shortcomings of the current CAFC precedents about ETCIs 'in the name of the *MBA* framework' that otherwise might have created uncertainties about the latter's reasonability as guideline to the solution provided here of the current confusion about the SPL precedents about ETCIs.

ETCIs' total reliance on rationality in refined claiming that the Supreme Court by its *MBA* framework required, also enables determining ETCIs' concrete scope(ETCI)s absolutely precisely^{6.a}) and automatically^b) — as the definition of such an ETCI's scope is an automatically exhaustible mathematical formula, too. This (meta)rational^{4.c}) scope(ETCI) is trivially derived from^{4.a}) and defined by:

'DTS(ETCI) ≡ Domaintuple set of ETCI' ::= {∀ε ∏^{1≤k≤KD}(E-crC0k)}, D(E-crC0k) disclosed by ETCI's specification,
'TTS(ETCI) ≡ Truthtuple set of ETCI' ::= {∀ε ∏^{1≤k≤KTS}(E-crC0k)}, TS(E-crC0k) ⊆ D(E-crC0k),
'RTS(ETCI) ≡ Realizationtuple set of ETCI' ::= {∀ε ∏^{1≤k≤KTS^{RES}}(E-crC0k)}, TS^{RES}(E-crC0k) ⊆ TS(E-crC0k),
"scope(ETCI) ::= {∀ε ∈ RTS(ETCI)}".

This metarational definition of an ETCI's scope is evidently much more precise than any hitherto known definition of it — all of them being totally metaphysical. For automatically determining an ETCI's scope, it must be rationalized/mathematized, which by its mathematical restricted truth sets TS^{RES} is trivial.

For a potential infringement the same mathematical formulas apply: An ETCI's scope(ETCI) is violated by another ETCI*, iff scope(ETCI) ∩ scope(ETCI*) ≠ ∅, i.e. there is 1 RT(ETCI) = RT(ETCI*).

For 'licensing ETCI' the refined claiming by inCs opens hitherto unknown licensing opportunities: It is now possible to license not only the entire scope(ETCI) of an ETCI totally robust patent, but also only arbitrary subsets — which evidently significantly increases the economic appeal of the licensing business.

^{6.a} By the exact meaning defined here of the notion "scope(ETCI)", the rational quality of reasoning^{11.9} completely removes the hitherto unavoidable metarational uncertainty about what an ETCI's scope exactly is — which establishes the big problem in many ETCI violation cases. In more detail: Due to the enormous power of today's computers any such dispute may be decided momentarily and automatically^b), as the mathematical expressions right of the "::-=" may be derived instantly from the ETCI's mathematical specification alias its COM(ETCI), as soon as the tester of the ETCI has answered the prompts of the IES for inputting the mathematical definitions of all E-crCs of the ETCI^[320].

As classical claiming is metarational, it doesn't use in an ETCI's specification only its inCs but also limitations, from which it can't derive the precise/complete scope(ETCI). This holds in particular for IEG's "patent-eligible subject matter" due to its "inC abstinence".

^b For an ETCI, any mathematical definition of an E-crC0k on top of a model is a finite expression^[320]. In terms of E-crC0k's the sets 'Domain, D', 'Truthset, TS', and 'Restricted Truthset, TS^{RES}' are finite — RES denoting the set of by ETCI realizable K-tuples — and with them the Domain-K-tuple set, the Truth-K-tuple set and the Realization-K-tuple set.

II.11: A brief aftermath about the current state of the Supreme Court's "inventive concepts".

The entire patent community, including the CAFC and the USPTO's IEG, initially had huge difficulties with inferring meaningful semantics/pragmatics/semiotics into the *MBA* framework's key terms, first of all its notion of "inventive concept". Yet recently, panels of the CAFC just as a number of experts from IT/Internet^[360] (see the IA paper in^{III})/LifeCycle-/Biotechnology^[361] economies showed unmistakably at conferences of the Reference List that they no longer have such problems but enjoy that the "*MBA* framework thinking" significantly increases the quality of their patents — unfortunately only a few panels & experts^{III}.

Thus, with almost all the members of this community their doubts about the *MBA* framework still prevail⁷⁾ — they are still subject to a shock about the Supreme Court's actual paradigm shift in SPL precedents in favor of ETCIs, of which they haven't even recognized yet that its purpose is to grant more robust patent protection to ETCIs by refined claiming than possible with classical claiming. I.e., they simply can't understand that the latter is simply incapable of providing this protection, as not noticing the notional pitfalls embodied by ETCIs (absent from CTCIs). Eliminating this dilemma is this Memo's objective.

Tactically, thereby two short remarks about the preceding explanation of inCs are substantial:

- In addition to inCs' enabling to draft/test ETCIs totally robust, to define the scope of an ETCI absolutely precisely — thus greatly facilitating proving its infringement in an unassailable way^{6.a)} — and to dependably automate much of the everyday SPL business (including a broad range of pertinent activities, from acquiring 'refined claiming qualification' until 'licensing subtilization'^{II.10)}, the notion of inCs also vastly facilitates automating correct real-time analyzing & arguing about ETCIs.
- As totally robust ETCIs are always application specific, it is crucial to draft these applications initially as broadly as only possible — which is also supported by the scalability of inCs by means of their TSeS, i.e. by maximizing them in the resp. independent claims and then limiting them incrementally by their depending claims — and/or to bar undesired patent applications from being granted by disclosing them as the basis of related potential future own patent applications.

Strategically it must be stated: In SPL precedents about ETCIs, its paradigm refinement for enabling its Rationalization and Mathematization is currently before starting. This scientizing step — of an ETCI's refined patent(application) or precedent about it or its infringement by an ETCI*, away from its current Metarationality (at best) into the Rationality explained here — puts this ETCI into the position of a mathematical theorem: The latter rests on the axioms of its Mathematics and the theorem's specific mathematical preconditions, and these two enable mathematically proving its correctness.

The analogon to a theorem is an allegedly totally robust patent(application) for an ETCI or its infringement by ETCI*, resting on the Supreme Court's refined *MBA* framework^{2.b.2)} and COM(ETCI and/or ETCI*) as its specific SPL preconditions, and these two enable mathematically proving its correctness/violation — whereby all the Mathematics involved is representable as {LAC}^{3.f)} in trivial English (IDL)^{II.4)}.

As a consequence, in dealing with ETCI patents it will rapidly become a must

- to hedge any long-term / high-risk R&D investment into an ETCI by a totally robust patent on it and
- to immediately attack an ETCI* infringing it by showing that exists an $RT(ETCI) = RT(ETCI^*)$.

Any alternative will become unprofessional.

A final word as to the trustworthiness of this prognosis: It evidently depends on the trustworthiness of the Rationalization/Mathematizability of testing ETCIs for satisfying SPL, in^{II.9)} proven by Mathematical KR. But anyone familiar with Mathematical KR^[2] immediately recognizes that such testing is pure Mathematics — comprising its axioms being the ETCI's facts after confirmation by an external expert before the district court, except in serious legal error for the CAFC being invariants due to the Supreme Court's *Teva* decision^[217,225] — i.e. more trustworthy than any mathematically stated law of Physics.

⁷ — as very recently expressed in even really extreme wording by several (former) CAFC judges of a panel of a USPTO conference!!!

III. The Patent Community's Relation to Totally Robust Patents & Refined Claiming they Enable

This page very briefly summarizes statements of 3 parties, together being quite representative of the entire patent community. They show how far it has come in recognizing that the Supreme Court — by its refined interpretation of 35 USC §§ 112/101/102/103, as represented by its *MBA* framework — has provided a guideline for clarifying how to search for increasing the robustness of patents for ETCIs, i.e. eventually: whether for ETCIs totally robust patents based on refined claiming may exist. Such patents probably are indispensable for sustainably incentivizing engagements in & investments into the US innovation-economies, in particular into their long-term/high-cost R&D.

These 3 parties and their publications mirror exactly what was stated here earlier, as shown next.

- N. Solomom^[358]: **"The Disintegration of the American Patent System — Adverse Consequences of Court Decisions"**. His paper, despite being full of real-life truths, also shows the disaster with the general feeling among the silent majority of the patent community about the indeed permanently increasing sophistication of primarily the SPL and its precedents. Here the USPTO ought to think about a way how to convey more understanding of the good reasons for this development, in particular as to ETCIs and the related inevitable refinement of SPL for protecting US society's wealth.

Otherwise these patent professionals' potential will be lost for developing ETCIs' businesses.

- The IPO^[359]: **"Proposed Amendments to Patent Eligible Subject Matter under 35 U.S.C. § 101"**. While this IPO paper implicitly addresses the same ETCIs/SPL issues as the author's, it tries to resolve them by simplifications such that they become digestible for the IPO's patent professionals. Thus the comments on it by^[361] — discussing these simplifications — are much more useful for them than this author's would be. As to the need of "refined claiming qualification" the just said holds here, too: the prerequisite for familiarization with drafting/testing totally robust patents, by approaching it via the USPTO's EPQI/MRF philosophy and the IES, as soon possible^[356].

- The "IA"^[360]: **"Letter to President-elect Trump"**. This IA paper addresses virtually all of the Internet-related IPR economies' needs and hence deals with the scope of the author's paper on only 11 lines in its Patent Reform section. Nevertheless these few lines confirm the above said: This type of patent professionals no longer has problems with the *MBA* framework's requirements as to drafting robust patents on ETCIs. Yet only as far as these resemble the System Design requirements, which they have known for a long time and which by now are met also by the CAFC decisions in *DDR/Enfish/TLII*.... I.e., they currently still ignore the framework's additional SPL specific requirements — hitherto unknown to them — for avoiding patenting unlimited preemptive ETCIs, which hence might put the entire US NPS into jeopardy, a risk coming with ETCIs and unknown from CTCIs^{8.a)}.

The only two additional requirements to be met by these patent professionals — when drafting totally robust patents, i.e. for their refined claiming of their ETCIs — are those making the metarational *Alice* analysis rational^{4.c)}: ●Refining in these patents the classical O-level representation of an ETCI to its O-/A-/E-level KR^{11.4}, and ●assessing that the latter has exactly the logical structure for being PE, as prescribed by the Supreme Court's *Alice* analysis^{b)}.

Thus, this IA paper confirms the above said, indicating: This^{11.11} patent community is the ETCI spearhead and will soon switch to *MBA* framework-based refined claiming, i.e. to drafting totally robust patents — at the latest, as soon as such drafting is vastly supported by the IES^{c)}.

⁸ .a While such risks are evident with e.g. pharmaceutical ETCIs, they also may arise with Internet-based ETCIs, e.g. of AIT²⁾.

.b For an ETCI's meeting this crucial unlimited preemptivity avoidance requirement stated by the Supreme Court's *Alice* decision, the notion of its "AliceE-crC"³⁾ (i.e. its "inventive *Alice* concept") being independent of its TT0 must be understood, as discussed in^{5.f)}.

.c A seemingly potentially related precedential decision by the PTAB^[362,363,364] has absolutely no impact on the statements of this Memo, as explained in a separate short comment on it — as by its content not really fitting into this Memo B — coming within the next days.

The FSTP-Project's Reference List

FSTP = Facts Screening/Transforming/Presenting (Version of 07.03.2017')

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. Knowledge Representation(KR)/Description Logic (DL)/Natural Language (NL)/Semantics/Semiotics/System Design, just as MAI: "Mathematical Artificial Intelligence", the resilient fundament of AIT and FSTP: "Facts Screening/Transforming/Presenting", developed in this FSTP-Project.

[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?.

[35] S. Schindler, IPR-MEMO: "Definitional Distinctions between – and Common Base Needed of – Subs. Trademark Law, Subs. Copyright Law, and Subs. Patent Law", in prep.

[37] D. Bey, C. Crotopia, "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.

[113] S. Schindler: "The CAFC's Rebellion is Over – The USSC, by *MayaBiosig/Alice*, ...", published 07.08.2014?.

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

[163] S. Schindler: "The USSC's *MayaMyriadAlice* Decisions: Their Overinterpret. vs. Oversimpl. of ETCIs – Sole. of SPL Prec. as to ET CIs in Action: The CAFC's *Myriad* & CET Decisions", USPTO, 07.01.2015?.

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

[175] S. Schindler: "Patent's Robustness & 'Double Quantifying' Their InCs as of *Maya/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. Marges: "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?.

[230] I. Kant: https://en.wikipedia.com/wiki/Immanuel_Kant. &
I. Kant: "Critique of Pure Reason", https://en.wikipedia.com/wiki/I_Kant.
I. Kant: "The Metaphysical Foundations of Natural Science", Wikipedia.

[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?
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: PIC 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. Negrutu, 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. 07.03.2016?.

S. Schindler, U. Diaz, C. Negrutu, D. Schoenberg, J. Schulze, J. Wang, B. Wegner, R. Wetzler: "The User Interface Design of the IES for Testing an ETCI's satisfying SPL", publ. soon in 2017?.

[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*, 2015?.

[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 *English*, 12.05.2016?.

[291] S. Schindler: "English & 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, C. Negrutu, D. Schoenberg, J. Schulze, J. Wang, B. Wegner, R. Wetzler: "The User Interface Design of IES for Testing an ETCI's its Satisfying SPL – Including an Arguing Mode", in prep.

[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. Challyne, "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 for Certiorari, *OIP v. Amazon*, 12.11.2015?.

[309] USSC, Petition for Certiorari, *Sequenom v. Ariosa*, 21.03.2016?.

[310] USSC, Petition for 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. Stell: "Innovation Issues in the Americas – Subject Matter Eligibility" CASRIP, Seattle, 22.07.2016?.

[318] CAFC, Decision in *Phillips v. Zwi. 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 tbd

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

[329] M. Holubek: tbd

[330] S. Schindler: "A PS to my Epilog for the PE-Problem (Part I⁰⁰⁰ & I⁰⁰⁰⁰)", 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!", publ. 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 Innovation'", Bangkok, IGMA-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?.

[353] S. Schindler: "The Lesson to be Learned from the US Patent-Eligibility Hype: It Supports the USPTO's Enhanced Patent Quality Initiative, EPQIMRF", published, on 11.12.2016?.

[354] S. Schindler: "An Amazing SPL Cognition: Any Patent Application is Draftable Totally Robust, Memo A", published on 31.01.2017?.

[355] S. Schindler: "An Amazing SPL Cognition: Any Patent Application is Draftable Totally Robust, Memo B", published by 07.03.2017.

[356] S. Schindler: "An Amazing SPL Cognition: Any Patent Application is Draftable Totally Robust, Memo C", to be published by the end of 03.2017.

[357] M. Kiklis: "The Supreme Court on Patent Law", Wolters Kluwer, 2015.

[358] N. Solomom: "The Disintegration of the American Patent System – Adverse Consequences of Court Decisions", IPWatchdog, 26/29.01.2017, ?.

[359] IPO (Intellectual Property Owners Association): "Proposed Amendments to Patent Eligible Subject Matter under 35 U.S.C. § 101", 07.02.2017, ?.

[360] IA (Internet Association): "Letter to the President-elect Trump", 14.12.2016?.

[361] N. N.: Survey about LifeCycle/Biotechnique, to come soon.

[362] USPTO/PTAB: *Ex parte* Schulhauser, 2016?.

[363] B. Katthehrheinrich et al.: "What Schulhauser Means For Condit. Claim Limitation", Law360, 03.02.2017?.

[364] S. Schindler: "The PTAB's Schulhauser decision is Untenable", published 08.03.2017?.

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