

An Amazing SPL Cognition: Any Patent (Application) may be Drafted Totally Robust — Memo A

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I. Preview on Memo A: Any ETCl's Total Robustness is Achievable by Refined Claiming^{1.a)}

By the MBA framework's 'refined claiming' all ETCl patent(application)s may be drafted to be (refined) totally robust. I.e.: The patent(application)s' quality will be dramatically increased, their rejection rate dramatically decreased. Thus, the end of "non-totally-robust" patent(application)s for ETCl's has come!

This Memo A^[354] presents ●a fundamental SPL cognition: Any patent(application)'s ETCl (= "Emerging Technology Claimed Invention") may be easily drafted by '**refined claiming**' such that it is '**totally robust**' (as of the Supreme Court's '**MBA framework**' flavor of SPL), the next Memo B^[355] by the ETCl's ●'**inventive concepts**' the automatic IES^{b)} guidance thereby.^{2.a)} Finally, Memo C^[356] will show that ●the empirical EPQI data, collected by the USPTO's MRF endeavor, creates through the IES the chance to dramatically accelerate proliferating/acquiring '**refined claiming qualification**' to/by ETCl's inventors, investors, managers, licensees/-ors, examiners, judges, ... — by using the IES'es (semi-)automatic FSTP-Test of ETCl's. The patent professionals' need of this qualification clearly emerged at the USPTO's recent EPQI conference^{c)}.

During its panels about the USPTO's next EPQI steps^{d)} the first issue was addressed by so-called "armor-plated" alias "gold-plated" claims. This (old FSTP-)idea of '**ETCl's of ideal quality**' came-up for the first time with this prominence at a US wide event — yet as an amusement^{d)}, not as a serious SPL objective!

Section II of this Memo A hence shows that this (pre-MBA-framework unknown) ideal "legal resp. total robustness"^{e)} quality of an ETCl comes by itself^{3.a)}, just by its being 'refined claimed'. I.e., the panelists' amusement simply tells their non-understanding of today's scientific&IT potential of refined claiming that the Supreme Court has unleashed by its SPL requirement statements in its *MBA* framework, clearly defined by its six unanimous decisions in *KSR/Bilski/Mayo/Myriad/Biosig/Alice*. **These 6 Supreme Court decisions thus are a truly magic moment in the emerging of the 'Innovations Cognition Theory'**^{f)}.^[182]

The aftermath **Section III** clarifies that ●decisive subtleties of the Supreme Court's *Alice* analysis — i.e. of refined claiming — are currently still ignored by the CAFC and the USPTO, and ●the 'refined claiming' expansions of 'classical claiming' are necessitated by the *MBA* framework's 'exceptional inventive concepts'.

In total:

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

^{1. a} Abbreviations/ideas/arguments from preceding memos, e.g.^[300,301,353,3343,...], are often not repeated here, as assumed to be known.

NOTE1: Practically, no written brief or vocal presentation — by a reader of this memo — would use the complicated (as exact scientific) language encountered in this memo for thus clarifying the principle(s) actually being dealt with. Instead, simple and short sentences of the usual colloquial language and its shortcuts/abbreviations would be used there by him/her.

^b Its FSTP-Technology based (semi-)automatic '**Innovation Expert System, IES**'^[9,b,350] uses vastly (and partially even fully) mathematized SPL, ETCl's, and SPL precedents. It is the worldwide sole (prototype of a) system enabling (semi-)automatically and absolutely correctly representing/processing SPL, ETCl's, and SPL precedents about these hitherto complex IPR issues.

^c In contrast to the 4 conferences referred to in memo^[353/1.a)], the USPTO's important empirical MRF-information, provided in Alexandria on the 13.12.2016, is very helpful 'base material' showing the enormous progress and also scientifically valuable insights that the EPQI has achieved during its hitherto less than 2 years lifetime only — and how this information may be leveraged by the IES^{b)}. It is a cutting edge R&D endeavor striving for facilities unachievable by the EPQI but being indispensable in any patent examination.

The IES'es by its algorithms built-in (semi-)automatic partial correctness assessing uses only elementary Mathematics, as all SPL statements are of '**finite first order logic, FFOL**', i.e. of this 'simple pragmatics'. Statistical reasoning (like IBM's Watson, social bots, ...) is useless in SPL as it is deterministic. While semantic provers mostly are deterministic the IES refrains from using one, as its complexity in all likelihood would be mistrusted by judges — and as superfluous, due to the simplicity of the mathematical statements to be proven correct, understood by any judge (familiar with the *MBA* framework) at the first glance at them (see ANNEX).

^d I.e.: During the panels in the morning & afternoon — at 10:50-11:50 and 1:50-2:45 — in Alexandria on the 13.12.2016. The childish terms "armor-plated" & "gold-plated" claims indicated that the panelists using them had no idea about totally robust ETCl patents.

^e Meeting these requirements by an ETCl on the IES is necessary & sufficient for its being protected by 35 USC §§ 101/102/103/112: It then is trivially^{2.a)} 'legally robust' and even 'totally robust' if also its facts are mathematically correctly modeled^[320].

^f if not even, less spectacular but much further reaching, "Intellectual Property (IP) Cognition Theory", as syntax & semantics (necessary attributes of IPs under copyright & patent law) are not necessary for an IP Cognition Theory. See trademark law: Semiotics suffices.^[35]

II. A Fundamental SPL Cognition: Any ETCl's Patent (Application) may be Drafted 'Totally Robust'

ETCl based innovations are socioeconomically indispensable for assessing society's wealth. Congress encoded the incentive for creating them by SPL, i.e. by 35 USC §§ 101/102/103/112 (basically).

Due to its Constitutional responsibility the Supreme Court reanalyzed these 4 §§'s classical interpretation as to its incentivizing creating ETCl's and found it deficient — as often failing to protect them by SPL. Thus, it refined these 4 §§'s classical interpretation in favor of ETCl's needs by its six decisions^{FIG1} mentioned above — refining^{3.a)} also the 'metaphysical' classical claiming to 'metarational' refined claiming^{FIG1}.

Section I outlined the groundbreaking SPL cognition that a patent (application) of a refined claiming ETCl is totally robust^{2.a)} — i.e. is of ideal SPL quality — iff it passes the test of FIG2. The ANNEX shows the trivial mathematical proof (by contradiction assumption) of this fundamental statement's truth. For readers ignoring mathematics^{b)}, also its intuitive (much more tedious) SPL rationale is given by this Section II.

This SPL rationale rests on this ETCl's set of ETCl-elements X_n and their shares of all properties/aspects^{c)} of all SPL semantics/pragmatics of ETCl, $1 \leq n \leq N$. The conjunction of these N shares of all such aspects of SPL pragmatics^{d)} is a KR of the ETCl, i.e. represents the ETCl's total inventivity. As this conjunction is of FFOL^{1.c)}, the Supreme Court could (implicitly) order an ETCl's total inventivity by all its aspects^{FIG1}.

For initial colloquial reasoning about an ETCl the preciseness of the preceding paragraph is fine — yet not for legal reasoning about it, i.e. for recognizing the ETCl's inCs, disaggregating them, increasing their preciseness, checking their completeness, checking the ETCl's definiteness, ... This implies the need to toggle back and forth between Sections II and III for enabling the 'human SPL perception' of an ETCl and its scope to stepwise approach their complete and correct '**Knowledge Representation, KR**'^{e)} by "**O-/A-/E-levels of refining notional resolutions**"^{f)}. Both are originally of •'metaphysical' KR as represented and pposc-implied by MUIS(COM(ETCl))^{g)}, then of •'metarational' (= 'aggregated-rational') KR, then of •'rational' (= 'elementary-rational') KR, and finally of • 'mathematical' (= 'axiomatized') KR^{h)}. [320]

- ^{2.a} The occasionally used term "**refined**" in an ETCl's robustness statement indicates that any misinterpretation of the Supreme Court's *MBA* framework is always assumed to be excluded, also in court decisions, i.e. by judges — notwithstanding their independence. The notion 'legal/factual' (=technical) or both — denoted by 'total' — robustness of an ETCl means: all its leCs/crCs^{III.7} are well-defined^[320]. These levels of robustness are enforced by drafting the ETCl correctly on top of the IES only, also being assumed here.
- 'Robust patent' is an upcoming buzzword. Hence, some remarks are in place. Within a few years 'nonrobust' patent applications will become worthless. The notion '*robust patent*' applies only to this patent's SPL aspects, is binary, and subject to^{b)}. The specification of a legally/totally robust patent may be written as usual in natural language, crucial parts thereof being of limited vocabulary& syntax& semantics (in English e.g. limited to 'Innovation Description Language, IDL'^[320]) — thus enabling avoiding using Mathematics explicitly.
- ^b This strange attitude of most patent lawyers diametrically contradicts Kant's resp. conviction/testimonial^[332.2.e)] — he postulated: "*I maintain that in any special doctrine of nature [e.g. SPL] only so much real science can be found, as there is mathematics found*" — also refusing to recognize that the SPL, as understood by the Supreme Court' *MBA* framework, is a clean-cut exact science^[19.b.182].
- ^c A 'term' is an arbitrary 'identifier' alias 'name'/'acronym'/'reference'/. ... A pair <'term'/. ... its 'meaning'> is called 'notion', named by this term/name/. ... The term 'item' may be used as an unspecific alias for any element of a set, e.g. for any of the just highlighted items.
- A notion's meaning, assigned to its term/name/compound/. ... is called the latter's 'semantics' — if refined for a new application's need: this semantics' '**pragmatics**' (being the resp. flavor of this semantics). Making/Creating/Using/Being new meanings/semantics/pragmatics is called '**semiotics**'. The *MBA* framework for SPL performs 'SPL semiotics' by refining ETCl's classical SPL semantics to SPL pragmatics. Named pragmatics may be called '**aspects**'. Notions relate to their aspects as O-/A-inCs to their E-inCs.
- ^d The Supreme Court's *Alice* decision explicitly defines 4 key '**Patent Eligibility Determining Aspects, PEDAs**': An ETCl 1.)comprises an "nPE TTO", 2.)is the "**application of the nature of TTO**", 3.)comprises an "inC^{Alice}" alias "**is significantly more than TTO**", and 4.)is of "**limited preemptivity**", whereby any aspect 2-4 is redundant (= test5)-7) in FIG2, as 5)∧6) are derivable from 7), and 7) from 5)∧6).
- ^e Here the terms '**knowledge, K**', '**knowledge representation, KR**', and '**knowledge representation structure, KRS**' presumably have the same meaning, i.e. their notions are synonyms; the first notion then is the fiction of the representation(structure)-less latter ones. The similar representations hold for 'ETCl and COM(ETCl)' and the latter's 'inCs and their O-/A-/E-levels of notional resolution'^{III.4.3.c)}
- As much of that said here is relevant only for ETCl's (as for CTCl's often inapplicable), the rest of this memo refers to ETCl's only.
- ^f The refinement of the foundation of classical SPL to that of 'ETCl SPL' (alias '*MBA* framework SPL') corresponds to the historic refinement performed of the foundation of classical Physics to that of Elementary-Particle Physics (alias Schrödinger Theory): There the '**Energy Preservation Axiom**' is key to this refinement; here it is the (hitherto unknown) '**Knowledge Preservation Axiom**'.
- ^g The term '**MARK-UP ITEMS SET of COM(ETCl), MUIS(COM(ETCl))**' denotes a set of mark-up items sets comprised by ETCl's specification — these sets therein being marked-up by the ETCl's inventor — which 1:1 disclose all elements of COM(ETCl), just as required by the Supreme Court's *Alice* decision. The ETCl's fiction of COM(ETCl)^{FIG2} is assumed to always exist, in any ETCl representation.
- ^h Thereby — as to the overlapping KR hierarchies 'metaphysical/metarational/rational/mathematical' and 'O/A/E'^[182] — the meaning^{c)} of
- **metaphysical** is: 'any of the ETCl's N ETCl-elements is identified by its MUIS(COM(ETCl))^{g)} but may be of vague properties' (i.e.: is located on the **O-level**^{[355]III.4}, as the notion 'metaphysical' shall here indicate that the ETCl is not entirely 'highly speculative' or even 'transcendent', but its vagueness is assumed to be at least partially amenable to scientification/mathematization^{b)});
 - **metarational / aggregated-rational** is: 'any property of any of ETCl's items is described by a predicate', i.e.: located on the **A-level**;
 - **rational / elementary-rational** is: 'any property of any of ETCl's items is described by a conjunction of atomic predicates, which is logically equivalent to the preceding potentially compound predicate' (i.e.: located on the **E-level**);
 - **mathematical / axiomatized** is: 'ETCl is rational and any of its atomic predicates is defined on top of a mathematized/axiomatized model' (i.e.: located on the '**E-inCs modeling**' level).

II.1 An ETCI's Initial Metaphysical / O-Level KR Transformation of Classical to Refined Claiming

FIG1 visualizes the transformation of an ETCI^{2.e)} from its classical claiming (disclosures) to its refined claiming (potentially refined disclosures) that the *Alice* decision requires to be performed^{III.3.a)}

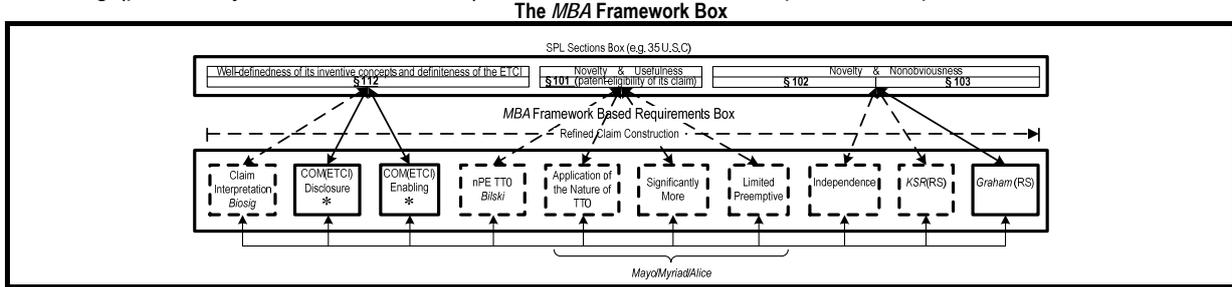


FIG1 The Initial Declarative & Metaphysical / O-Level Transformation of an ETCI's KR from its (Using Original Disclosures in) Classical Claiming to its (Using Potentially Refined Disclosures in) Refined Claiming — as Required^{III} by the Supreme Court's MBA Framework.

LEG1: The MBA Framework Box comprises the ●35 USC/SPL Box and its 4 §§, which code the 3 'original/compound social concerns' that any SPL articulates internationally — being 'well-definedness&definiteness' of the ETCI under SPL test, its 'patent-eligibility = novelty and usefulness', and its 'nonobviousness' (comprising its novelty) — and the ●MBA Framework's Basic Requirements Box and its 10 requirements to be met by an ETCI for meeting the 3 original/compound social concerns, disaggregated into 10 'basic concerns' in total equivalent to these 3 original ones. Both together show the disaggregation of the 3 original/compound social concerns (of the 4 §§) into 10 basic ones implied by the MBA framework.

The solid bold lines within the latter box and those emanating from 2 of the 3 original/compound social concern boxes identify the 3 basic social concern boxes that classical claiming practically only considers — even if an ETCI (and not a CTCI) is at issue. The dashed bold lines show that the MBA framework considers 7 more basic social concerns (not existent in classical claiming) into which the 3 original/compound social concerns are disaggregated by MBA framework's refined claiming for ETCIs. The fine double-headed arrows between all basic social concerns indicate that in both claiming modes all the respectively existing ones may affect and/or are affected by all original/compound social concerns — as evidenced by FIG2.

The claim interpretation box is shown as *Mayo/Alice* explicitly require using the notion of 'inventive concept'^{III} for determining/describing/handling an ETCI's 'exceptional' inventivity increment(s). Thus, for consistency, inventive concepts must also be used for determining/describing/handling ETCIs' ordinary inventivity increments in the ETCI's descriptions wherever they occur — also throughout the MBA framework, especially between the Supreme Court's *KSR/Bilski/Myriad/Alice* and its *Biosig* decisions — and the Supreme Court indeed nowhere in its framework issues a faint hint at using another paradigmatic idea than inventive concepts for determining and/or describing and/or handling inventivity increment(s) in/of notions of ETCIs. The commonly known reason is that using different paradigmatic reference systems in any nontrivial context whatsoever creates mentally/intellectually insurmountable complexities in analyzing this context^{c)} — which the Supreme Court surely didn't have in mind when designing its MBA framework.

^{3.a} The notion of "claiming" is by JDA³¹⁴⁾ defined to comprise any classical 'claim interpretation' and 'claim construction', thereafter here expanded to hold also for refined 'claim interpretation' and 'claim construction' as defined by the Supreme Court's 'MBA framework'^{b)}.

^b The role of the 'person of pertinent ordinary skill and creativity, pposc' for an ETCI in claiming requires some explanation.

NOTE1: There is a huge notional distinction (see the separation lines in FIG2) between ■ an ETCI's claim interpretation — to be performed by its pposc, yet where questionable also by the inventor as *Biosig* requires — and ■ this ETCI's claim construction to be performed by the ETCI's examiner ('pposc like') for testing the claim interpretation achieved by the preceding ■ (not by its own opinion).

^c This implies the necessity of using inventive concepts for clarifying the *Biosig* definitiveness requirement (to many patent experts still a miracle) for the 4 post-MBA-framework metarational^{2.h)} notions 'ETCI'/'COM(ETCI)'/technical teaching, TT0'/'scope(COM(ETCI))'.

Rationalizing — without using the notion of inventive concept — the meanings of the 3 corresponding pre-MBA-framework classical notions 'invention'/'technical teaching, TT0'/'scope(TT0)', known since always hence being metaphysical^{2.h)}, seems impossible.

NOTE2: An ETCI is by *Biosig*^{b)} called 'indefinite' iff none of its TT0s is definite. An ETCI comprises one or several COM(ETCI)s — of one resp. several 'Generative Sets, GS' of E-crCs^{III.4)} (such that their COM(ETCI)-specific conjunctions represent all A-crCs of their COM(ETCI)s), which may be skipped — any one of which comprises one or several TT0s, any one of which comprises only a single 'realization (K)-tuple, RT(TT0)', see LEG2. A TT0 is the classical assumption of an invention being 1 RT.

Alice must be interpreted in light of the *Biosig* decision, as the latter existed earlier than the former. Thus *Alice* decision's term 'combination', here 'COM(ETCI)' as explained in the preceding paragraph, is subject to *Biosig*'s definiteness considerations.

NOTE3: It is immaterial whether the indefiniteness of a TT0 is caused by its having an indefinite inventive concept — then this in C's definition^{355,320)} is ambiguous — or several of its definite inventive concepts interact in TT0's invention with each other in a way that causes a TT0's indefiniteness. All that counts is whether TT0 fulfills *Biosig*'s definiteness criterion, which is based on TT0's scope (that evidently ignores what may have caused its indefiniteness in case it fails meeting this criterion).

The *Biosig* definiteness criterion is easy to grasp for the case of an ETCI embodying only a single TT0: For in this case it follows from the definition of TT0 — being based on TT0's inventive concept(s) — that by the definition of scope^{III.9)} (in this case it has only a single RT(TT0)) the latter is indefinite iff TT0 is indefinite. And this holds trivially also for ETCI and all its TT0s.

Finally: This discussion does not exclude that, in case of an ETCI failing to be definite, to analyze the above quoted two possible indefiniteness causes for possibly eliminating the trouble maker(s) from some of its TT0s — and several definite TT0s are fine.

NOTE4: In classical claiming^{a)} this notional filigree is lacking, which resulted in the CAFC's "insoluble ambiguous" indefiniteness criterion that the Supreme Court's *Biosig* decision declared untenable. This criterion namely would — in case of a patent specification that discloses of a single claimed invention CI, here: ETCI, that it embodies different TT0¹⁾ and TT0²⁾, which mutually don't exclude each other — by its definition determine of them the first one incidentally encountered, e.g. TT0¹⁾, as definite and hence ignore TT0²⁾.

Biosig clearly recognized this deficiency and disqualified proceeding this way, i.e. disqualified the "insoluble ambiguous" indefiniteness criterion as thus contradicting the Constitution — which does not tolerate a court's decision that of these two by the inventor claimed TT0s of his ETCI only one is considered by it. In this case the scope of an ETCI must comprise both TT0s^{III.9)}.

By contrast, the constitutionally clean *Biosig* definiteness criterion insists that — if the specification has alternative and mutually excluding interpretations/TT0s — the inventor has the right to determine which of these TT0s represents its invention^{III.9)}.

NOTE5: The 2 starred basic concerns/requirements boxes identify in Cognition Theory and in 'constructive creativity/inventing' a logically indispensable proof of existence, e.g. by the FSTP-Test created/invented for the 6 decisions^{sect.1)} of the Supreme Court — as it repeatedly invited^{69,300/1.4)} (though by a 7th decision not confirmed, in O-level style as its MBA framework, definitively establishing it).

NOTE6: They represent the FSTP-Test's most vulnerable aspects in any malicious attack on an ETCI's total robustness proof.

II.2 An ETCI's Remaining Metarational&Rational&Mathematical- / A&E-Level KR Transformations

FIG1+ to FIG2 visualize the remaining 2 transformations — after the first one outlined by Section II.1 — of an ETCI's KR from its metarational classical claiming based disclosures to its (potentially refined) disclosures that the MBA framework requires to be used in rational refined claiming. The result of the metaphysical KR transformation of FIG1 is trivially FIG1+. Leveraging its FFOL^{1.c)} conjunction enables rewriting this non-sequential logic expression to the sequential algorithm of the FIG2-, briefly explained by LEG1+/-.

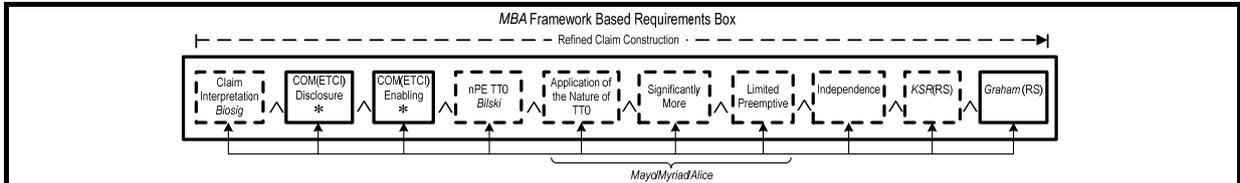


FIG1+: The Declarative & Metarational / O-level KR of an ETCI — Resulting from its KR Transformation shown by FIG1.

- 1) COM(ETCI) is — in its O-/A-/E-level representation^{III.4} based on the prosecution record — precise/exact/complete?; *If potentially indefinite, specification conforming definiteness to be established by the inventor/record)..... (COM(ETCI)'s claim interpretation is here completed)*
 If its specification discloses alternative TT0s, the ETCI's definiteness is to be determined by the inventor (Biosig);
- 2) COM(ETCI) is **lawfully disclosed** (as all crC0nk are lawfully disclosed, just as their leC0nk, with $1 \leq n \leq N \wedge 1 \leq k \leq K^n$)?..NOTE6
- 3) COM(ETCI) is **enablingly disclosed** with the implementability $\forall 1 \leq n \leq N$ A-crC0n (embodying all crC0nk $1 \leq k \leq K^n$)?..NOTE6
(COM(ETCI)'s §S 112 test is here completed)
- 4) COM(ETCI) is comprising an "nPE TT0" (Bilski)?;
- 5) COM(ETCI) is "an application of the nature of TT0" (Mayo/Myriad/Alice)?;
- 6) COM(ETCI) is "significantly more" (Mayo/Myriad/Alice)?;
- 7) COM(ETCI) is "limited preemptive" (Mayo/Myriad/Alice)?..... *(COM(ETCI)'s PE-Test is here completed)*
- 8) COM(ETCI) is "independent"?;
- 9) COM(ETCI) is "E-crC(i,n,k)-wise anticipated or nonanticipated $\forall E$ -crC(0,n,k) and $\forall TT.i \in RS$ " (KSR)?;
- 10) COM(ETCI) is "semantic height $Q_{plcs} > 0$ over RS" (Graham)?;

FIG2-: The Procedural Metarational / O-A-level KR of an ETCI — Representing a Refinement of the FIG1+ O-level KR.

LEG1+/-: The question marks indicate that the ETCI KR has metamorphosed — from the properties/aspects declarations of the ETCI-elements of an ETCI satisfying SPL, shown by FIG1 — into an inquiry, whether the ETCI-elements' properties/aspects provide this satisfaction. The underlined comments emphasize the hitherto unknown transparency the working of all ETCI's SPL satisfying tests. The bold term right of an "is" identifies the question — described on the O-level of notional resolution in the Supreme Court's corresponding decision (quoted in brackets) — that the Supreme Court requires to be answered, as the conjunction of these 10 unambiguous affirmations (and only this) determines an ETCI's SPL satisfaction.

FIG2 evidences that it is feasible to consider an ETCI's well-definedness&definiteness jointly, just as its nonobviousness&novelty — in both pairs both notions are namely not independent of each other and hence dealing totally separately with them is impossible.

- 1) COM(ETCI) meets Biosig, with A-crCS = $\{A$ -crCn, $\forall 1 \leq n \leq N\} ::= \{ \wedge^{1 \leq k \leq K^n} (crCnk \vee ncrCnk), \forall 1 \leq n \leq N\} \wedge$
 \wedge E-crCS is (new \wedge useful \wedge definite \wedge complete by i)) \wedge (new \wedge useful \wedge definite by ii)?;^{c)}
- 2) See FIG2-
- 3) See FIG2-
- 4) COM(ETCI) is comprising an "nPE TT0", meaning: $scope(crCS^{TT0}) \neq \Phi$?
- 5) COM(ETCI) is an "application of the nature of TT0", meaning: $\prod^{TT0} scope(crCS^{cl}) \subseteq scope(crCS^{TT0})$?
- 6) COM(ETCI) is — as indicated by "inC Alice" — "significantly more" than TT0, meaning: $crCS^{Alice} \neq \Phi$?
- 7) COM(ETCI) is "limited preemptive", meaning: $(\prod^{TT0} scope(crCS^{cl}) \subseteq scope(crCS^{TT0})) \wedge (crCS^{Alice}) \neq \Phi$?
- 8) COM(ETCI) is "independent", meaning: $\forall E \in \{E$ -crC0nk | $1 \leq n \leq N \wedge 1 \leq k \leq K^n\}$ are logically independent of each other?;
- 9) COM(ETCI) is "E-crC(i,n,k)-wise A or N", meaning: $\forall \Delta_{i,n,k} ::=$ if (E-crCink =^{mod(8(CI))} E-crC0nk) "A" else "N"?;
- 10) COM(ETCI) is of "semantic height Q_{plcs} over RS", meaning: $Q_{plcs} ::= \sum_{1 \leq n \leq N} (\min_{\forall i \in \{1..i\}} ||\Delta_{i,n,1} = "N", \dots, \Delta_{i,n,K^n} = "N" ||) \geq 1$?;^{c)}

FIG2: The Procedural & (Rational or Mathematical) / O-A-E-Level KR of an ETCI — Representing a Refinement of the O-A-level KR of the FIG2-, if the question marks are left away — otherwise it is called the 'FSTP-Test', being fundamental for FSTP-Technology.

LEG2: COM(ETCI) cannot rationally/mathematically model the O-inCs — of the ETCI to be tested for satisfying SPL — as these are metaphysical for many ETCIs; hence they are left out of from this test description. Yet COM(ETCI) comprises all metarational and rational (resp. also mathematical) information about this ETCI by its A-/E-level predicates (= properties/aspects) that the FSTP-Test leverages, exactly as required by the Supreme Court's MBA framework.

Thereby any testox may assume that any testoy has been passed, y<x. In general, any isolated testox of a corresponding ETCI's aspectox, 1<ox<=10, may be meaningless although passed, as another testoy of another ETCI aspectoy, 2<oy<=10, y≠x, may contradict it — and applying testox and testoy to two different COM(ETCI)s were logically inconsistent.

Thus, it is indispensable to first perform the ETCI's claim interpretation for determining any such COM(ETCI) (for determining its 'volume'^{III.9} and receiving the inventor's confirmation for it if required^{3.b)}) and then work with only these COM(ETCI)s^{4.a)}.

FIG2 shows the rationalization/mathematization of SPL semantics (often being semiotic¹⁷¹⁾) of the metarational FSTP-Test in FIG2-. Note that to assess an ETCI's •total rational robustness it is necessary and sufficient to test by the FSTP-Test its being PE as required by the MBA framework's Alice analysis as well as its being patentable by KSR/Graham, and •total mathematical robustness it is additionally necessary and sufficient to warrant that the ETCI-specific facts in all 10 testoy are mathematically correctly defined (i.e. axiomatized) on top of their models³²⁰⁾ — which is invisible on the E-level, but nevertheless makes the pposc superfluous, who otherwise (in the rational only case) had to confirm their correct definition^{b)}.

4. a This logically devaluates the ethical standing of several CAFC decisions: •As they declared the CAFC's own claim interpretations to be correct although it mostly — im- and/or explicitly confirmed is the BRI, evidently diametrically contradicting the Supreme Court's Biosig decision, and additionally •contradicting this Biosig decision also under two further aspects: Firstly, by rejecting what the inventor clearly identified in her/his briefs to be its invention and his/her insisting to clarify this issue by an initial claim interpretation, and secondly by strangely but explicitly declaring that in an alleged obviousness case a claim interpretation were irrelevant, which just has been proven as false!
 b Finally: In both cases, the 10 testoy can be described mathematics-free in natural English language, i.e. in IDL³²⁰⁾.
 c For other details of the FSTP-Test — being of less interest in this context, though in the end crucial for it — see³⁰⁰⁾.

III. Refined Claiming, Necessitated by Exceptional Inventive Concepts, is Still Oversimplified

- This aftermath Section clarifies of 'refined claiming' alias of the Supreme Court's *Alice* analysis that its
- decisive subtleties^{5.a)} are currently still ignored by the CAFC and the USPTO^{b)} and that maintaining this relaxation of the *Alice* analysis means extinguishing the mechanism of the *Alice* analysis that avoids that this generosity^{a)} would put the NPS into jeopardy, and its
 - expansion of 'classical claiming' is implied by the *MBA* framework's 'exceptional inventive concepts'^{c)}.

Ad a.): The wording of the PE analysis defined by the Supreme Court's *Alice* decision immediately shows the deficiency of the USPTO/IEG's '2-Step test', just as of several CAFC decisions^[340]: None of them checks an ETCl — which the USPTO and the more the CAFC are supposed to qualify as PE or nPE — for 1.) comprising an nPE TT0, and 2.) whether a TT0 application that it comprises is logically independent of TT0, although the Supreme Court's *Alice* decision explicitly (though indirectly) states both requirements^{d)}. Due to both defects, the USPTO&CAFC deficiently qualify ETCl's as PE, without having checked whether 1.) the *Alice* analysis is not 'not applicable, n.a.', or 2.) TT0's nPE is by its application indeed restricted in a way making ETCl PE.

I.e.: The sole fact that the ETCl is an application tied to 'somewhat' doesn't render it PE^{d)}, if this fact comprises a 1.) **precondition error**: This 'somewhat' is not an nPE TT0^{FIG2/test4}; then the *Alice* analysis is n.a. to the ETCl. 2.) **postcondition error**: It is an nPE TT0, but the ETCl's application is notionally dependent on TT0^{FIG2/test5+6}.

While the precondition error is evident, the postcondition error needs its justification. The notional independence of the nPE TT0 from the application to which TT0 is tied — being the case if TT0 and this application belong to independent Ontologies, but easy to prove also in most other cases^{e)}^[320] — is indispensable. The reason is: If the application of the nPE TT0 is e.g. a new implementation of TT0, it would clearly cause an innovative concept, yet as this implementation is not independent of TT0^{f)}, this ETCl is by the *Alice* analysis still nPE^{g)}. And indeed, this ETCl is not limited but unlimited preemptive as it has changed nothing with TT0's nPE: COM(ETCl) is still the same as COM(TT0)^{h)}. At second glance one recognizes (see COM(ETCl)) that the ETCl's nonlimitation occurs with any application of TT0 depending on TT0 — which hence would preserve the threatening of the US NPS, if held PEⁱ⁾.

Ad b.): Exceptional inCs cannot be defined precisely & exactly^[300/5.b)] solely on the O-level^{j)}. Using the O-/A-/E-level KR technique's logical consistency requirements of refined claiming is evidently inevitable for dependably meeting all the requirements stated by the Supreme Court's *MBA* framework.

- The Supreme Court detected these subtleties (just as their logical indispensability) for enabling always granting a patent to an nPE TT0 if it is appropriately limited, namely by having it tied to the for this TT0 innovative application (identified by TT0's specification, as explained above and^{e)}), i.e. for imposing only the absolutely necessary restriction on an nPE TT0 for thereby making it PE — i.e. disabling it from contributing to putting the entire NPS into jeopardy (as the Supreme Court outlined in its *MBA* framework opinions).
- Both institutions use the seemingly most important term — "inventive concept" — but thereby trivialize it, completely ignoring the equally important terms that set the pre- and postcondition for the applicability/-tion of the *Alice* analysis and hence clearly exclude •this trivialization, or upfront •the absence of PEDAs^{2.d)} in COM(ETCl). Also the most recent pertinent judicial literature^[357] — here being extremely helpful — doesn't quite grasp the amazing smartness of the *Alice* analysis and hence of the refined claiming that implements it.
- Any ETCl comprises — per definitionem, i.e. by its "ET" — at least 1 exceptional inventive concept. Without it it were a CTCl.
- The *Alice* analysis explicitly requires for an ETCl to be PE from the specification shared by the ETCl and the nPE TT0 that it embodies to "... transform the nature of the claim [alias TT0] into a patent-eligible application", and additionally to disclose an inventive concept that warrants that this transformation delivers "... significantly more than a patent upon the [ineligible concept] itself" [being TT0].
Thus, to be PE, an ETCl must comprise the "nature" of its nPE TT0 — by common sense and/or all ontological thinking^[326] necessarily meaning: The ETCl must comprise the "TT0 kernel" of the set of all applications of TT0, i.e. all inCs describing TT0 — and TT0's combination with the specific TT0 application selected from this set by the specification (and specified by it) must embody an "inventive concept, *inC^{Alice}*", such that the ETCl is significantly more than what TT0's concept(s) embody.
Thereby nobody would assert: A space1 being the product of the domains of a set1 of independent concepts (modeling COM(ETCl)) is not "significantly more" than a space2 being the product of the domains of a set2 of concepts (modeling COM(TT0)), if set2_⊂set1 and hence space2_⊂space1 — in particular, if the element(s) of set1\set2_{≠∅} is(are) inventive concepts of the ETCl. (This meta-rational clarification of the ETCl's relation to TT0 is stated totally mathematically by using the ETCl's and TT0's RTSes in the above 2 COMs ^[142,355].)^{e)}
- The same holds for the independence of test8, yet note that this independence does not imply the independence in test5.
- as this TT0 implementation is, despite its being new, notionally trivially depending on what it implements, i.e. on TT0 —
- An ETCl passing FIG2^{test1-6} is PE and hence limited preemptive as passing test7; vice versa, it is PE if it passes FIG2^{test1-4,7,(5/6)} ^[300]
- I.e.: Tying the nPE TT0 to this specific application depending on it does not transform TT0's unlimited preemptivity to a limited preemptive application of it, i.e. potentially still threatens to put the US NPS into jeopardy.
- The plainly mathematical approach to recognizing the indispensability of the application's independence from TT0 is simpler — though again less intuitive: test8 reduces COM(ETCl) to its minimal number of E-crCs and then using the impossibility of their dependency.
- The O-level is only seemingly exclusively used in the preceding paragraphs — in truth, they already heavily draw on the A- and E-levels. I.e.: Using the O-/A-/E-levels is indispensable for leaving Metarationality and getting to Rationality&Mathematics.

The FSTP-Project's Reference List

FSTP = Facts Screening/Transforming/Presenting (Version of 31.01.2017*)

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.

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ANNEX:

Proof of the Invariance of an ETCl over its Rationalization-/Mathematization-Transformations

— For more information about FIG1 and FIG2 and their KRses(-Transformations)^{2.e)} see Section II —

The purpose of this ANNEX is to provide proof — and show its triviality — that an ETCl in KRS* indicated by FIG1 is identical to ETCl in KRS** indicated by FIG2, whereby the ETCl in KRS** is derived from ETCl in KRS* as explained in Section II. In spite of its triviality, this proof is nevertheless provided for confirming the hitherto unknown truth of the SPL cognition that this work presented. As on first hearing, it usually is considered totally incredible, as hitherto it was indeed totally incredible, and intuition does not induce that this dramatic advantage comes along with simply replacing classical claiming by refined claiming, as the Supreme Court requires it. The proof goes by contradiction assumption.

Contradiction assumption: \exists an ETCl* in the KRS*, which is not identical to the ETCl** in the KRS**, whereby the latter pair has been derived from the former pair as described in Section II.

By the definition in Section II of the transformation performed with ETCl* in the KRS* and the contradiction assumption, this transformation is bijective between COM(ETCl*) and COM(ETCl**).

Due to the assumed non-identicalness there \exists a bijective pair $\langle E\text{-crC}^*, E\text{-crC}^{**} \rangle$ or $\langle A\text{-crC}^*, A\text{-crC}^{**} \rangle$:
 in $\langle E\text{-crC}^{**} \in \text{COM}(\text{ETCl}^{**}), E\text{-crC}^* \in \text{COM}(\text{ETCl}^*) \rangle$ or $\langle A\text{-crC}^{**} \in \text{COM}(\text{ETCl}^{**}), A\text{-crC}^* \in \text{COM}(\text{ETCl}^*) \rangle$,
 its two elements are different.

But this is a contradiction to the transformation performed in Section II with ETCl* in the KRS*, as it does not touch COM(ETCl*). Hence the contradiction assumption is inadmissible, which proves the identicalness of the ETCl in both KRses. **q.e.d.**

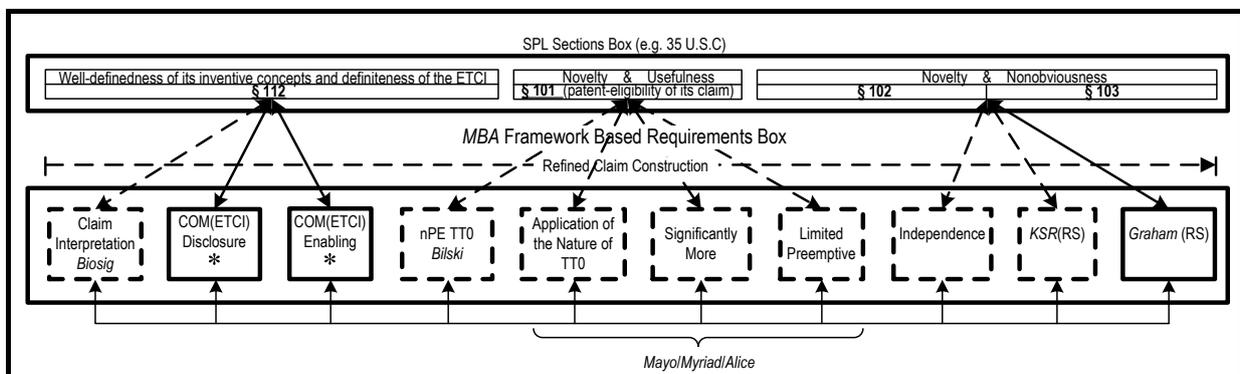


FIG1 The Declarative Metaphysical / O-Level Transformation of an ETCl's KRS from its Using Original Disclosures in Classical Claiming to its Using Refined Disclosures in Refined Claiming

- 1) COM(ETCl) meets *Biosig*, with $A\text{-crCS} = \{A\text{-crCn}, \forall 1 \leq n \leq N\} ::= \{\wedge^{1 \leq k \leq Kn} (\text{crCnk} \vee \text{ncrCnk}), \forall 1 \leq n \leq N\} \wedge \wedge E\text{-crCS is } (\text{new} \wedge \text{useful} \wedge \text{definite} \wedge \text{complete by } i) \wedge (\text{new} \wedge \text{useful} \wedge \text{definite by } ii)?;^c)$
- 2) See FIG2-
- 3) See FIG2-
- 4) COM(ETCl) is comprising an "nPE TT0", meaning: $\text{scope}(\text{crCS}^{\text{TT0}}) \neq \emptyset?$
- 5) COM(ETCl) is an "application of the nature of TT0", meaning: $\prod^{\text{TT0}} \text{scope}(\text{crCS}^{\text{cl}}) \subseteq \text{scope}(\text{crCS}^{\text{TT0}})?;$
- 6) COM(ETCl) is – as indicated by "inC Alice" – "significantly more" than TT0, meaning: $\text{crCS}^{\text{Alice}} \neq \emptyset?$
- 7) COM(ETCl) is "limited preemptive", meaning: $(\prod^{\text{TT0}} \text{scope}(\text{crCS}^{\text{cl}}) \subseteq \text{scope}(\text{crCS}^{\text{TT0}})) \wedge (\text{crCS}^{\text{Alice}}) \neq \emptyset?$
- 8) COM(ETCl) is "independent", meaning: $\forall e \in \{E\text{-crC0nk} \mid 1 \leq n \leq N \wedge 1 \leq k \leq Kn\}$ are logically independent of each other?;
- 9) COM(ETCl) is "E-crC(i,n,k)-wise A or N", meaning: $\forall \Delta^{i,n,k} ::= \text{if } (E\text{-crCink} =^{\text{mod}(8(\text{Cl}))} E\text{-crC0nk}) \text{ "A" else "N" }?;$
- 10) COM(ETCl) is of "semantic height Q^{plcs} over RS", meaning: $Q^{\text{plcs}} ::= \sum_{1 \leq n \leq N} (\min_{\forall i \in \{1..i\}} \|\Delta^{i,n,1} = "N", \dots, \Delta^{i,n,Kn} = "N" \rangle\|) \geq 1?;^c)$

FIG2: The Procedural Rational or Mathematical / O-A-E-Level KR of an ETCl