The USPTO's §101/Biotech Workshop: The USPTO's PE-Test is too Vague to Help. The Supreme Court's SPL-Framework Provides the Only Safe PE-Haven.

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I. A §101-Meeting like no other — as Finding: The USPTO's 2-Step-Test Fails Biotech's PE-Needs. [1.a)]

For years, all US-wide "**patenteligibility**, **PE**" meetings focused on the CAFC's PE-decisions. By contrast, the USPTO focused its recent nationwide Biotech/PE-meeting on its "**USPTO's 2-step PE-test**" and its PE-Guidelines[157,...,407] — for figuring out the helpfulness of both for drafting, prosecuting, and/or attacking/protecting biotechnical ETCI patents.

The meeting participants' answers to this question: There is no help. They found the USPTO's 2-step PE-test (and its PE-Guidelines) too vague to provide any guidance on how to apply it to a Biotech ETCI for assuring its being PE. Yet consensus existed that a safe PE-haven is urgently required — based on the Supreme Court's PE-analysis in *Alice*[390].

To this end, the "**PE-Theorem**"[406] proves[b)/2.a)] that the *Alice* decision's PE-analysis provided by the Supreme Court causes no vagueness, as it is indeed caused by the USPTO's 2-step PE-test, namely by its incompletely interpreting *Alice*'s PE-analysis. Hence, completely interpreting it excludes this vagueness: It even delivers a forensic instrument of hitherto nonexistent power and ease for qualifying an ETCI as being PE or ^{lim}PRE. This renders the US SPL much more innovation- & investor-friendly than ever before — or worldwide anywhere else — also for all Biotech (and Businesstech) ETCIs.

PE-THEOREM: [2.a)/f)]		ETCI is PE ≡	**[** ETCI is a pair of an ^{nPE}TT0 ∧ an application of ^{nPE}TT0, ^{TT0}A **]**
α)	^{TT0}A "**transforms the nature of TT0**" into ETCI		**[** $(\Pi^{TT0}$scope(E-crCS)⊆scope(E-crCS^{TT0})) ∧
β)	**(**having an "**inventive** *Alice***concept**" or		∧ **(**∃ E-crC∈{E-crCS\E-crCS^{TT0}} ∨
γ)	or being "**significantly more than TT0**")		∨ **|**E-crCS\E-crCS^{TT0}**|** ≥ 1**)** **]**
∂)		≡	**ETCI is** ^{lim}**PRE** ∧ ^{n}**PRA.**[c)]

NOTE_1 This PE-Theorem (in NIDL[b)/a)]) states: The Supreme Court's *Alice* PE-analysis very fittingly calls an ETCI "**significantly more than its ^{nPE}TT0**", as[2.f)] ●"inDIM(ETCI)≥inDIM(^{nPE}TT0)+1"[2.b)] resp. ●"inENT(ETCI)≥inENT(^{nPE}TT0)+1"[2.b)].

NOTE_2 The USPTO's 2-step PE-test skips precisely analyzing *Alice*'s 4 crucial notions[3.b)] that characterize semantic[3.b)] peculiarities of ETCIs, semiotically[3.b)] not yet existing in pre*Mayo* SPL-precedents[2.c)]: **α)** ^{TT0}A "**transforms the nature of an ^{nPE}TT0**", **β)** "**inventive** *Alice***concept**", **γ)** "**significantly more than TT0**", **∂)** "^{lim}**preemptive**". Due to a worldwide 'Shannon-event'[2.d)], initially nobody grasped the metarational[3.d)] meanings of these 4 terms[3.b)] — as they are indeed unusually tightly interrelated mutually. Instead almost everybody felt these 4 meanings were metaphysical[3.d)]. **But this was wrong!!!** Since[244,...,406] is known: These 4 notions are definitively metarational and hence precise[3.e)]. Yet the USPTO still clings to its vaguely defined and definitively false[3.e)] PE-test. Why seems unknown.

Eliminating the thus caused vagueness from its notionally coarse "PE tinkering" — i.e. from the vague notions of the USPTO's 2-step PE-test — inevitably requires refining these 4 initially seemingly metaphysical O(riginal)-level[3.c)] notions of *Alice*'s PE-analysis into their E(lementary)-level[3.c)] 'hard kernels': Only E-level notions enable precisely defining a robust[354,355] and vagueness-free PE-test that meets all requirements stated by *Alice*'s PE-test-specification (= PE-Theorem), e.g. the FSTP-Test.

I.e.: Not first noticing **all 4** hard legal PE-facts of the SPL/*MBA*-framework or for an abstract ETCI not accordingly defining **all** their rational/mathematical subject matter counterparts — i.e. not refining **all** their O-level notions to their precise/rational E-level notions, but ignoring part of the *MBA*-framework, as the USPTO's 2-step PE-test and most patent practitioners[390] do — cannot eliminate the latter's vagueness criticized by the Biotech meeting[a)], while the FSTP-Test can[e.g.406].

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[1] **.a** **UPFRONT:** Much of the Biotech criticism of the USPTO's 2-step PE-test touched the *MBA*-framework — mostly implicitly only, as the Supreme Court defined it by wordings only indicating their meanings[3.c)], i.e. unfit for articulating criticism. This paper provides the so involved meanings needed for correctly discussing & using this safe PE-haven alias '*MBA*-framework' that the Supreme Court defined for SPL precedents about ETCIs[2.a)].

Other purposes of this paper are ●to counter key misrepresentations of this *MBA*-framework in the USPTO reports[157,...,407] and ●to create awareness that these reports nowhere mention the Supreme Court's grounds for its indispensable refinement of the interpretation of 35 USC §101, due to the advent of ETCIs[2.c)]: The classic SPL interpretation is notionally significantly too vague for enabling courts to reestablish and preserve the consistency of SPL's PE precedents about ETCIs — and hence for gaining back the for investors crucial predictability of and trust in the US NPS[2.a)].

This vagueness may be totally eliminated only if such precedents are no longer dependent on feelings (about an ETCI's subject matter and reasons why who has such feelings, as it hitherto was the case), **but only on the objective/formal result of an ETCI's** *Alice***-based PE-test** — being the ETCI's FSTP-Test. It takes this Supreme Court approach to determining an ETCI's PE, which considerably deviates from the USPTO's approach: *Alice* namely identifies by its PE-analysis the 4 above objective ETCI-criteria the fulfillment of which by the ETCI is necessary&sufficient for its PE. It does not coarsely ask for the subject matter's PE — as the USPTO's Guidance[407] insinuates to do — but it asks for much more filigree subject matter properties of which is not recognizable, at all, what they have to do with PE (as striving for preserving the integrity of the US NPS threatened by ETCIs). Yet due to these 4 properties' filigree they are rationally definable and hence their being satisfied is rationally testable — even mathematically/provably!

.b *Alice's* wordings slight modifications — based on[3.a)] — solely establish their clarity/grip/uniformity but don't change *Alice's* or the USPTO's PE meanings[3.b)].

.c Both statements are **for inventors & investors** very interesting ETCI properties, "^{lim}**PRE**" & "^{n}**PRA**" — hitherto undefined resp. even unknown, but now defined in[2.f)] — resulting from the Supreme Court *Alice*'s PE-analysis, i.e. two more cognitions about the inventor-&investor-friendliness of SPL caused by the *MBA*-framework.

Several FSTP-papers have shown for years — initially very mathematically (to assess the consistency of FSTP-Technology) and sparingly, to not hurt anybody's feelings — that it is not correct, what the USPTO's PE-reports[157,407] tell its customers about its 2-step PE-test: That an ETCI (here: from Biotech) ●is likely PE only if it passes this PE-test, ●as the latter allegedly represents the Supreme Courts' '*Alice* 2-step PE-analysis' alias '2-step PE-test-specification'[2.a)].

Since the CAFC's *DDR* decision it is even evident that the USPTO only incompletely interprets this PE-analysis of the Supreme Court and hence mistook the latter's **PE-analysis** (of all ETCIs) as already being the **PE-test** (of an individual ETCI). This is definitively wrong!!! By its PE-analysis, *Alice* provided just a **PE-test-specification** independent of individual ETCIs, i.e. not a PE-test applicable to an ETCI!!! (The term "specification" here has the IT System Design[2,276] meaning, not the different SPL meaning.)

Thus, from *Alice*'s PE-analysis (= PE-test-specification) a PE-test is to be derived that meets the requirements stated in this PE-test-specification. I.e.: The Supreme Court neither provided a PE-test nor claimed to have done so. Instead, it expected the patent community to derive this PE-test from the PE-test-specification that it had provided to this end[3.a)].

But the patent community didn't deliver any such derivation. Instead, the entire community in unison with the CAFC jumped right after the Supreme Court's unexpected *MBA*-framework decisions at publicly disqualifying its therein defined 'framework' as incomprehensible — in hindsight clearly being a worldwide Shannon-event[2d)]. For then (in 2015) making the best out of this dilemma, the USPTO derived a PE-test on its own, based on its incomplete interpretation of *Alice's* PE-analysis, yet quite in its style:

I.e., the USPTO defined its own '2-step PE-test' to have in its second step only a single notion[3.b)]: '**recite additional elements that amount to <u>significantly more than</u> an exceptional crC**'[1.b)] — yet did not define this compound term's precise SPL-meaning.

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[2] **.a** **<u>ACRONYMs</u>** (and alike)**:** The acronyms "**SPL**"/"**NPS**"/"**ETCI**"/"**CTCI**"/"**MUIS**"/"**KR**"/"**IDL**"/"**RTS**"/"$^{(n)}$**PE**"/"$^{(u)/lim}$**PRE**"/"^{n}**PRA**" stand for "**Substantive Patent Law**"/"**National Patent System**"/"**Emerging Technology Claimed Invention**"/"**Classical Technology Claimed Invention**"/"**Mark-up Unit Information Set**"/"**Knowledge Representation**"/"**Invention Description Language**"/"**Realization Tupel Set**"/"**(non)patenteligible**[f]/**(un)limited-preemptive**"/"**non-preemptable**". The notion "**(nPE) Technical Teaching**, $^{(nPE)}$**TT0**" — for brevity often the prefix "^{n}**PE**" omitting — stands for an nPE invention alias ^{nPE}TT0 being the indispensable starting point of *Alice*'s 'PE-analysis', e.g. an exceptional E-crC (as *Alice* explains).

Moreover, "**FSTP-Test**" ("**FSTP**" stands for "**Facts-Screening/-Transforming/-Presenting**") and all terms/notions[3.b)] used by it are assumed to be known, a priori[f)] — e.g. E-crCS and E-crCS^{TT0}::=$\prod^{TT0}$E-crCS. Compared to[406] the PE-Theorem's KR[2] is here simplified w.l.o.g..

All here SPL-definitions are written in "**Natural IDL, NIDL**", the "base version" of all IDLs[372]. On second glance one sees that they may be read as natural English[373], though of a hitherto unheard dialect of trivialized English vocabulary & grammar.

W.l.o.g. is assumed: ETCI 'alias' E-crCS comprises only "**independent**" E-crC^{k}s , whereby the 'independent' means that no EcrC^{k}∈E-crCS is by the given elementary Mathematics of NIDL combinable from the elements in E-crCS\{E-crC^{k}}, and all its RTs[f)] are enablingly disclosed by the ETCI's specification.[2.e)]

.b if PE is notionally modeled by "inventive dimensions" (i.e. geometrically[g)]) or "inventive entropy[g)]" (i.e. a deterministic kind of Shannon's discrete "information entropy"[422]).

.c as in CTCIs[a)] exceptional crCs (i.e. 'abstract ideas' or 'natural phenomena') until then were either hardly noticed or totally unknown, just as 'preemptions'. These were introduced — thus creating the FSTP-notion 'ETCI' — by the Supreme Court in *Bilski/Mayo/Myriad* and in some more detail in *Alice.*

.d The "**Shannon-event**"[422] is best explained by a joke (although it is not a Mathematics' "triviality" temporal black-out, but a 'cognition blockage'):

Extraterrestrials in search of intelligence in the universe are approaching Earth, all the inhabitants of which supposedly speak English just as the ETs, yet unknown on what IQ-level. Thus the ETs transmit to Earth a short sequence of letters with a question mark — namely "ZOTT…?" — to figure out whether their IQ would suffice to answer it by extending and retransmitting it. But, while the ETs instantly receive many extensions, none of them is correct. Thus the ETs also instantly transmit to Earth a correctly extended sequence for indicating the construction rule to be applied, namely "ZOTTFF…?". But the same happens, and they quickly transmit to Earth a further correctly extended sequence, namely "ZOTTFFSSEN…?" — but the replies from Earth remain wrong. Thus the ETs stop this communication and assume on this planet there is no significant IQ, as its inhabitants didn't recognize that this sequence is made up of the first letters of the natural numbers' names in English, i.e. of 012345678… — which the ETs assume to be known by the inhabitants, otherwise they had no intelligence anyway.

A more sophisticate Shannon event happened world-wide with the Supreme Court's repeated communications of the SPL-framework to the patent community: In hindsight it is evident that many members of this community are capable of correctly interpreting the *Alice's* PE-analysis (as described in the *Alice* opinion, primarily on its page 6/bottom and page 7/top). But as with any Shannon-event, this description embodies a "clou"[390], and without knowing it nobody was able to find it. I.e.: While it was tedious to find this clou, it seems self-explanatory after its principle is grasped, e.g. after reading this paper.

.e **<u>DEFINITIONs-1</u>**: As *Alice* indicates, its 4 notions of NOTE_2 are semantically partially mutually overlapping as well as complementing.

All 4 wordings have compound O-level-meanings[3.b)/c)] and hence are vague, i.e. potentially metaphysical[3.d)]. Yet due to their overlapping & complementarity, they all are metarational[3.d)], as the PE-Theorem shows. I.e.: Its lines' **β-γ** right sides define, even mathematically modeled, the (rational) semantics' parts that ***α-∂*** jointly contribute to precisely defining the *Alice*'s PE-analysis and/or an ETCI at issue, of PE and ^{lim}PRE.

By contrast, it is evident that the meaning of the term peer to **α-γ** from the USPTO's 2-step PE-test[157] — '*recite additional elements that amount to significantly more than an exceptional crC*'[1.b)] — is neither self-explaining nor explained by the subsequent versions of the USPTO's PE-guideline up to[407]. I.e., this wording of the second step of the USPTO's 2-step PE-test defines no precise meaning, but gets stuck with the vague meaning provided by[157].

Thus the qualification of an ETCI as to its PE and/or PRE by *Alice*'s PE-analysis contradicts that of the USPTO's 2-step PE-test.

.f **<u>DEFINITIONs-2</u>**: By *Alice* an ETCI is rationally/mathematically[391/ftn1.c)] defined to be "**ETCI::=<^{nPE}TT0,^{TT0}A>::= a pair of an nPE TT0 (≡^{nPE}TT0[a)]) and a TT0-application, ^{TT0}A**", with TT0 and a "^{TT0}A being enablingly disclosed by the ETCI's specification". ETCI hence is a finite term, which holds also for the following.

The Supreme Court's 6 framework decisions, *KSR/Bilski/Mayo/Myriad/Biosig/Alice,* do not explicitly require using the hierarchy of O-/A-/E-/M-levels of refining the notional resolutions of the notions describing an ETCI. Yet the Supreme Court's *MBA*-framework implies this notional refinement by its need to be able to think precisely about these notions, e.g. the notions required for describing the 'BRI', and the 'scope(ETCI)', and …, and the above notions ***α-∂*** of NOTE_2, for achieving that at least this SPL-interpretation is guaranteed to be inherently uniformly consistent. This — as to the BRI today recognized as evident[424] — objective of the SPL precedents about ETCIs is impossible without this refinement, as e.g. the USPTO's 2-step PE-test indicates. See[3.c)/.d)/182] for this notional refinement hierarchy's tight interrelation to (more precisely: indispensable necessity for) the human perception/cognition process.

W.l.o.g., let an ordinary E-crC∈E-crCS be called "**exceptional**" iff the property it models is not only rationally & deterministically definable, but additionally to this '**ordinary E-crC**'-property comprises an 'exceptional property' (which may be of quality e.g. 'abstract idea' or 'natural phenomenon').

Let an ETCI be called "**preemptive**" iff ∃ETCI° **:** (E-crCS=E-crCS°) ∧ {[RTS(E-crCS\E-crCS^{TT0})=RTS(E-crCS°\E-crCS^{TT0})] ∧ [RTS°(E-crCS^{TT0})≠RTS(E-crCS^{TT0})]}. I.e., preemptions are symmetrical. Thus, any ^{lim}PRE ETCI — as being an ^{PE}ETCI[300,406] — is by this symmetry also "**nonpreemptable**, ^{n}**PRA**"[1.c)].

.g Let, for an E*-crCS⊆ E-crCS with |E*-crCS|=L≤K, be "**scope(E*-crCS)::='Realization Tuple Set**, **RTS(E*-crCS)**'" ⊆$\prod^{1\le l\le L}$**E*-crC**^{l}. [3.g)]

Note that the "**projection of scope(E-crCS^{ETCI}) onto TT0**, $\prod^{TT0}$**scope(E-crCS^{ETCI})**" need not to be ⊆scope(E-crCS^{TT0}) (= 'scope(TT0)') $\forall^{TT0}$A, as a ^{TT0}A* may impact on ^{nPE}TT0 resulting in TT0* such that scope(TT0*) is an expansion of scope(TT0). But this ^{TT0}A* is no longer an application of TT0, i.e. would not render TT0 as PE, but some TT0* — and this would result in some subject matter ETCI* definitively different from the ETCI, as then scope(ETCI*) ≠ scope(ETCI).

.h **NOTE:** All 'SPL-Theory' construction for SPL-Technology[182], of which one of its truly innovative aspects is here described, were impossible without the *MBA*-framework. It namely introduces by its focusing on PE — in particular of ETCIs — into SPL's hitherto vastly metaphysical thinking the mathematical degree of scrutiny that elevates SPL to the only exact science below Physics, i.e. to a new "**Cognition Mathematics**"[332].

Due to this negligence, the USPTO didn't notice that its PE-test's SPL-meaning vastly ignored (just as the entire patent community) that the PE-analysis of *Alice* stated all 'SPL(-meaning)-requirements' to be met by an *MBA*-framework based PE-test. These requirements are to be met by any USPTO PE-test iff it meets *Alice*'s PE-test-specification, i.e. the PE-Theorem. It evidently embodies no meaning[b)] for meeting e.g. the 1st and/or the 4th of the 4 notions (in NOTE_2) of the *Alice*'s PE-test-specification. Hence the USPTO's 2-step PE-test is not only untenably vague but also simply wrong. The consequences for most pertinent USPTO PE decisions by the CAFC and PTAB are stated in[406].

For any ETCI-patent expert a principal and a practical conclusion of fundamental interest follows from the above said, outlined next.

The Principal Conclusion: The *Alice* PE-analysis cannot qualify an ETCI as PE iff **1)** it comprises no nPE invention, and/or **2)** its application of this otherwise comprised ^{nPE}TT0, ^{TT0}A, does not preserve TT0's nature, and/or **3)** ^{TT0}A, comprises no inventive ^{Alice}concept, and/or **4)** the ETCI is not significantly more than ^{nPE}TT0, and/or **5)** is ^{ulim}PRE. Then ∃ two sets ≠Φ of ETCIs, ETCISA and ETCISB, for all of which the USPTO 2-step PE-test fails to qualify legally correctly their ETCIs as PE or nPE.[e)]

The USPTO and the CAFC ignore all these here discussed *MBA*-framework-implied PE-requirements or use their terms without defining their meanings precisely. This renders their high rejection and/or destruction rates of their decisions totally obsolete — i.e., their such decisions are logically and legally principal failures!!! — while the FSTP-Project has shown[f)] that the correctness and precision of their in truth PE qualification (provided their ETCIs are properly drafted) is unquestionable as even mathematically provable[300].

The Practical Conclusion: Noticing something is missing in the USPTO's interpretation of the Supreme Court's 2-step PE-analysis, some CAFC panels tried to fix in freestyle this deficiency ad hoc in their decisions: In *DDR* vastly correctly, just as potentially in *Enfish*/*TLI* (yet in these two decisions by wrong justification, as mistaking the mathematical cognition theoretical rigor of *Alice's* "significantly more" notion[b)] Other panels noticed nothing or even increased their misunderstanding of the *MBA*-framework based PE-analysis, as *MYRIAD* and *ARIOSA*[400] (by erroneously requiring an 'absolutely' instead 'relatively' novel ^{TT0}A). In the *TLI*-type decision of *VISUAL MEMORY*[421] this misunderstanding leads both sides of the CAFC's split board even to contradicting grounds. All such the notion "…. significantly more …" misunderstanding decisions are legally untenable.

The reason being that this notion's meaning cannot be questioned: This meaning's "outer shell"[3.a)] — so the Supreme Court term — is by **γ)** so mathematized, i.e. its significance is evidenced by the meaning of 'independence' in **β)**, as shown by 'inDIM'[g)].

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

.b A '**term**' is an arbitrary '**identifier**' alias '**name**'/'**acronym**'/'**reference**'/'**requirement**'/..../'**wording**'. A pair <'term'/..., its '**meaning**'> is called '**notion**', denoted by its name. The term '**item**' is an unspecific alias for any of the just highlighted items. A notion's meaning, assigned to its term/name/requirement/.../wording, is called the latter's '**semantics**' – and semantics for a specific need, the latter's '**pragmatics**'. The notion of making/creating new meanings/semantics/pragmatics is called '**semiotics**'.

.c For an ETCI's "**O**(riginal)-/**A**(bstract)-/**E**(lementary)/**M**(athematics)-**levels of notional resolution**"-KR[2] see also[355/p3], which describes details skipped here. We all know these 4 O-/A-/E-/M-levels of abstraction (i.e. this hierarchy of increasing notional resolution) — though usually not being aware of them(it) — from daily life: Whenever a person perceives anything whatsoever, he/she usually becomes aware of this perception on this whatsoever's O-level and communicates about it in terms/notions of its O-inCs. Here this whatsoever is disclosed by "**mark-up units**, **MUIs**" in this whatsoever 'specification' in natural language and graphical presentation. Today, identifying/delimiting/"compiling" such MUIs in an ETCI's specification is no business of FSTP technology, but assumed to be done up front, ideally by the ETCI's inventor.

Only when required to become precise about an ETCI is one left with no option but to describe its often vague and informal O-inCs by more rational/precise formal predicates, i.e. A-inCs on its A-level. Yet when it comes to assessing this ETCI's D or PE or PA, also these A-inCs' conjunctions of E-inCs are needed. This process is called 'determining for ETCI's original/classical also its refined claim interpretation'.

.d The meanings of the following 4 bold printed left hand notions qualify properties of items[b)] of SPL or an ETCI[182]. Namely

- **metaphysical:** 'a MUIS(ETCI) indicating its either "high speculativity" or even "transcendence", seemingly not partially amenable to mathematization, or — on second glance at it — amenable to metarationalization as a compound or elementary informal "**O-predicate**"', located on the **O-level;**
- **metarational:** 'a compound or elementary formal predicate in natural IDL, NIDL', "**A-(level) predicate**", located on the **A-level;**
- **rational:** 'an elementary NIDL predicate, a conjunction of formal "**E- predicates**" being ≡ to the A-predicate to which it belongs', located on the **E-level**;
- **mathematical**: 'is defined on a mathematical model enabling its mathematization', located on the **M-level.**

.e Let ETCISA be defined by ∀ETCIs for which holds: They fail to pass *Alice*'s PE-analysis yet pass the USPTO's 2-step PE-test (such ETCIs embody the fundamental risk to potentially come with any ETCI for the US NPS that the Supreme Court identified). Vice versa, ∀ETCIs∈ETCISB pass *Alice*'s PE-analysis yet fail to pass the USPTO's 2-step PE-test (such ETCIs exclude this potential risk, yet unnecessarily block potentially precious innovations as not verifying that they establish this potential risk).

Any ETCI meeting the above requirements **1)∧2)** then is an ●ETCIA if it does not meet one of the nonredundant remaining 3 properties yet is rendered PE by the USPTO's 2-step PE-test., and an ●ETCIB if it meets the remaining 3 properties yet is rendered nPE by the USPTO's 2-step PE-test. Example ETCIAs and ETCIBs are trivially definable — yet left to[182] because of their lengthy specification outlines.

Thereby the question is obsolete, whether there is another interpretation of *Alice*'s PE-analysis alias PE-test-specification than the one performed here. In[354,355] is namely shown that the FSTP-Test — comprising the interpretation of *Alice*'s PE-analysis presented here — has the property that its successful passing by an ETCI is necessary and sufficient for this ETCI's being D&PE&PA[355]. Hence any other correct such interpretation is equivalent to the FSTP-Test.

Note that it is false ●to shorten the PE-Theorem as follows to: *"An ETCI=<^{nPE}TT0,^{TT0}A> is PE if there are additional ^{TT0}A*s or ETCI* not preempted by the ETCI, i.e. not anticipated by it*." (two independent reasons being that 1.) these ^{TT0}A*s resp. ETCI* with the same nPE TT0 simply may have more independent E-crCs than ^{TT0}A resp. the ETCI, or 2.) scope(E-crCS$^{ETCI\setminus TT0}$) may be =Φ), and ●to assume that TT0 must also comprise a nonexceptional E-crC for being an nPE invention[f)] (the reason being that this additional limitation of an ETCI's properties to be PE is unnecessary, hence committing the above error A).

.f to provide the ETCI at issue with an additional dimension (which thus does not happen in both ETCIs or at least in their CAFC decisions, as both are inadequately drafted, although it evidently happens in both).

.g As in[2-g)], **for an independent** E-crCS, **|**E*-crCS**|** =L is called its "**ETCI-inDIM**", i.e. L = **"inDIM(E*-crCS) = inDIM(RTS(E*-crCS)) ≤ inDIM(scope(E-crCS)) = K.**

Cognition theoretically 1 dimension is e.g. (in 3-dimensional Euclidean space) the difference between a line, a plane, and a cube. Nobody would deny that each of these items is "significantly more" than its preceding item.

For brevity, the discussion of the meaning of the term 'inENT(E-crCS*)' is postponed to[182].

II. The Number of Victims of the Vagueness of the USPTO's 2-step PE-test keeps Rapidly Growing, while by contrast the Complete Interpretation of the Supreme Court's PE-analysis is much more Investor-&Innovation-Friendly than Ever Before.

The excessively high patent refusal or destruction rate in §101-cases (far more than 60%) criticized above[412-414], caused by the incomplete interpretation of the *Alice* PE-analysis by the USPTO's 2-step PE-test, as explained above, is not declining but has stabilized itself with the PTAB in the meantime — allegedly as being due to a 'Supreme Court's 2-step PE-test'.[2.c)]

At the Biotech meeting a desperate voice shyly noted that the CAFC and the Supreme Court have 3 cases pending before them[418,419,420] and that this could cause a turning point in this disastrous trend. Yet these cases are subject to the CAFC's and USPTO's misinterpretations of *Alice*'s PE-analysis. Nevertheless one could feel that this voice hoped that in light of a correct *MBA*-framework interpretation of SPL, many such refusals/destructions would be undone or their ETCIs and their specifications a priori drafted or a posteriori amended to be totally avoided or at least overcome.

This shy voice's wishes may come true much faster than expected: The incredible forensic power of the correctly interpreted Supreme Court's *MBA*-framework — explained in many FSTP publications, unfortunately mathematically[182] — will find through the above PE-Theorem, the FSTP-Test, and the IES (semi-automatically executing it) a broad/convenient/productive access to the patent business market, particularly its Biotech area. In support of it, a comment on CAFC decisions from this area — e.g. *MYRIAD* and *ARIOSA*[423] — will show that the Supreme Court's SPL-interpretation and its PE-analysis are much more investor-/innovation-friendly than the CAFC and USPTO assume. This renders many of their destructive decisions untenable **iff their patent(application)s' specifications comprise wordings that disclose — by the Supreme Court's *MBA*-framework, i.e. ex-or implicitly — their ^{nPE}TT0s' transformation to "significantly more than these".** Such decisions are by Cognition Mathematics[2.h)] provable as true legal errors.

This "cognition mathematical"[2.h)] approach to SPL precedents about ETCIs — in particular of Biotech — is a forensic instrument of a power hitherto not existent, and today only for the 35 USC SPL. The CAFC and USPTO will soon become commonly aware[424,425] of this enormous support for innovation economies by unbreakably hedging and so legally incentivizing and protecting their huge R&D-investments through the US Supreme Court *MBA*-framework's Solomonic PE-analysis and its totally robust patents[354,355].

By contrast, none of the suggestions[390] to change §101 by Congress comes close to the by now excellent perspectives of the Supreme Court's *MBA*-framework interpretation of §101 — i.e. its anew change would dramatically devaluate all ETCIs, especially from Biotech.

The FSTP-Project's Reference List

FSTP = Facts Screening/Transforming/Presenting (Version of 16.09.2017*)

Most of the FSTP-Project papers below are written in preparation of the textbook[182] – i.e. are not fully self-explanatory independent of their predecessors.

[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 "Facts Screening/ Transforming/Presenting, FSTP"-Technology, developed in this FSTP-Project.

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