Most of the FSTP-Project papers are written for preparation of the textbook[182] – i.e. are not intended to be fully self-explanatory independently of their predecessors. Their quality is that of (incomplete) drafts for this textbook, which for the sake of saving time often still are notionally very dense.

MEMO: The Notion of Claiming in SPL – pre and post the "Aufklärung"[1.a)]

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I. Overview of this MEMO

Prompted by John Duffy's essay[314], Section II qualifies the CAFC's earlier **pre-*A*** [a)] notion[b)] of **claiming** as in its notional resolution too coarse – anyway as to claiming "Emerging Technologies' Claimed Inventions, ETCIs"[c)/3.c)]. Section III hints at the vast superiority of the **post-*A*** claiming notion.

ETCIs' by far most important legal pillar is the US SPL, basically encoded by 35 USC §§ 101/102/103/112. The recent groundbreaking "**refinement**" of SPL's interpretation – of its then valid pre-*A* one to the needs of the innovation economy's post-*A* one – has been performed by the Supreme Court's *MBA* framework decisions[d)], now supported by the CAFC (completely only implicitly[300,301,331]). It comprises the post-*A* meaning of the term "claiming" – ubiquitous in SPL yet not clarified by it, but by the *MBA* framework – thus transforming it and all SPL notions from pre-*A* to post-*A* level of SPL's notional development.

Section III addresses this transformation's meaning by hinting at the exact&precise[3.d)] definitions (in FSTP papers) of the elementary components of this "**refined claiming**" notion of the Supreme Court's *Alice* decision and its *MBA* framework[d)], and briefly summarizes its thus enabled "Eligibility Determining Aspects, EDA"-Test, which solves the patent-eligibility problem. I.e., it tells us that refined claiming makes SPL precedents about ETCIs consistent and certainly predictable[f)] and shows its necessity by very briefly commenting on the CAFC's thusly based recent decisions and *IV*, a delayed echo of the former confusion.

This now clear view of ETCIs by Supreme Court and CAFC – and USPTO's concurring efforts – preserves, as far as foreseeable, the current international lead of the US in SPL precedents about ETCIs.

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[1] **.a:** The German term "**Aufklärung**" indicates that this MEMO uses of the "Enlightenment" the Kantian thought as it would be understood today in this "cognition real science" context[2.e)], also abstracting from his moral theory[e.g. 230-233]. His prediction of the mathematization of any real science is broadly known, here of "Substantive Patent Law, SPL" precedents about ETCIs[2.e)]. That the latter is, for any ETCI, extremely amenable to be presented mathematically by "Mathematical Epistemology" – just as part of Physics with the emergence of Nuclear Physics had been presented as "Mathematical Physics", yet here located in the sub-physical area of human perception[6,9.b)] – has been indicated[FSTP-Reference List] by the *MBA* framework[d)] and achieved by the FSTP-Test resp. EDA-Test.

Striving for consistency (and predictability) of SPL precedents about all ETCIs – seen as infinite decision problem – hence were meaningless iff this objective were unachievable[2.e)], as Decision Theory tells us[2]. In hindsight one sees that the Supreme Court already in *KSR/Bilski* felt – probably and for consistency – the need to refine the representation of SPL about ETCIs in light of their precise pragmatics[b)], as AIT[2] does since the mid 70s. Thereby the reference to the Aufklärung, "***A*** ", by the adjective notions[b)] "**pre-*A*/post-*A***" is used as a principal qualifier of two sharply differing notional development stages of SPL. This pre-*A*/post-*A* is tightly related to also Kant's notions "(**highly speculative) Metaphysics/Rationality**", this MEMO interprets as limited as in *A*.

.b: A '**term**' is an arbitrary '**identifier**' alias '**name**'/'**acronym**'/'**reference**'/.... A pair <'term'/..., its '**meaning**'> is called '**notion**', denoted by its name. The term '**item**' may be used as an unspecific alias for any of the just highlighted items. A notion's meaning, assigned to its term/name/requirement/..., is called the latter's '**semantics**' – and semantics refined for an application's need, the latter's '**pragmatics**'. Making/Creating new meanings/semantics/pragmatics is called '**semiotics**').

.c: For our purpose here, innovations are seen as inventions.[2.a)] The currently emerging Innovation Technology is enabled by two centuries of Aufklärung, on which also the US Constitution is based. Nevertheless the meaning of the key SPL term "claiming" –today resting, even internationally, on very similar 'socioeconomic philosophies' – until recently was of only pre-Aufklärung quality.

.d: The term "**[*MBA*] framework**" has been created by the Supreme Court to denote its structuring and representation requirements concerning ETCIs' SPL tests – as stated by its line of 6 unanimous decisions in *KSR/Bilski/Mayo/Myriad/Biosig/Alice* – to be met by both in their ETCIs' SPL tests, thereby not caring about distinctions between a claim, its claimed invention ("CI"), and its representation. The *MBA* framework performs 'SPL semiotics'.[b)] by refining the classical SPL pragmatics for enabling it to dependably protect ETCIs by SPL, too. Here only "Emerging Technology CIs, ETCIs" are considered.[300/301]

.e: This currently emerging impact – worldwide hitherto only really noticed by the US Supreme Court in its "*MBA* framework".[a)] – has been •enabled, from the end of the 19th century until today, by the Kantian scientification[2.e)] of sciences, •necessitated by the advent in the second half of the 20th century of "emerging technologies" with their impetus away from classical technologies toward expansion into all kinds of e.g. nano, …, life science technologies with their much more sophisticated elements and their properties, and will within a few years unconditionally be •enforced into daily life by, on the one hand, the hitherto totally underestimated enormous increase of the productivity of AIT[2] due to its support by all kinds of IT and, on the other hand, the financial amounts needed to this end and willingly granted by the society due to many evident reasons iff sufficiently hedged by dependable patents.

.f: This MEMO does not consider the currently existing strange unawareness, in the broad patent community – not the Highest Courts – of the shift of the economy into new emerging and more sophisticated business areas, thus also of the focus of the respective increased innovation activities, and hence of the patent business: From today's "manufactory" type to the "(post)industrial" type.

II. The Incoherent pre-*A* Notion of "Claiming" an ETCI

The two "**claiming methods**" of the US SPL – the pre-*A* terminating and the since recently holding post-*A* one – rest on resp. pre-*A*/post-*A* notions of "**claiming**" / "**refined claiming**". The meaning of each of these two compound notions[1.b)] of claiming is determined by the paradigm(s) underlying the definitions of this notion's elementary components.[2.a)]

The common root of both claimings[.b)] is the Supreme Court's classical "*outer shell claiming*" alias "*peripheral claiming*". Out of this root both claimings evolved through paradigm shifts by the:

- CAFC to a series of incoherent allegedly précised "*literalistic claimings*". After Justice Breyer's hint at today's need of another[c)] claiming method[d)], John Duffy summarized in his excellent "essay"[314] the becoming of several of them and of their paradigm shifts exerted on them by the CAFC, i.e. the claiming methods holding until very recently. His essay implies a fundamental side result not mentioned therein: All these methods' notions are of pre-*A* quality, i.e. are unaffected by any of *A*'s groundbreaking cognitions – especially by Kant's fundamental cognition[e)] as to Rationality[1.a)] and then those gained during the 20th century until today through the infinitely many scientifications of doctrines[f)].
- Supreme Court itself to a single, by its *MBA* framework decisions indeed précised "*outer shell claiming*"/"*peripheral claiming*" alias "*refined claiming*" (as this new and now post-*A* claiming method has been called by this author since the Supreme Court's *Mayo* decision). It rests on 3 undeniable insights into the post-*A* pragmatics of SPL definitions[326]: **Firstly**, that a dependable and inventor-confirmed description of an ETCI must use only its "inventive concepts, inCs", whereby this **secondly** requires that its such description, i.e. complete representation by its inCs, is refined by 3 levels of notional resolution, its O-/A-/E-levels, and **thirdly** assessing – if one of these inCs is a natural phenomenon or an abstract idea[b)] – that this ETCI would not potentially threaten to put the NPS into jeopardy by being unlimited preemptive[b)] (i.e. by its additional phenomenology, unknown in classical technologies).

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2 **.a:** Innovations protected by copy right or trademark laws seem to be protectable by considerations similar[35] to those for the SPL.

.b: This unflattering comment on the development of the US SPL's key notions applies to an even higher degree to any other national/regional SPL, worldwide, in particular the EPC's SPL. The US Supreme Court countered this by the advent of ETCIs confused development in SPL precedents about them by its *MBA* framework, since *Mayo* supported by this author's FSTP publications, now also by John Duffy's essay[314]. This confusion has hitherto been occasionally just embarrassing, but is now becoming really annoying.

The reason being the increasing and today already enormous socioeconomic needs and potential of ETCIs, as these open many areas of life to AIT[2] – i.e. in particular to safety and comfort. But ETCIs are always located only partially in Rationality, as by definition embodying a natural phenomenon or an abstract idea and none of these belongs entirely to Rationality[271/2.a)] – only its "**model based**" part, while its non-modelable part is by definition of highly speculative Metaphysics[271/2.a)] and hence unlimited preemptive – thus threatening the NPS. It is proven[300,301,331] that ETCIs being applications and of limited preemptivity don't jeopardize the NPS and hence are "patent-eligible", as the Supreme Court requires. By contrast, the CAFC tended for years to exempt all not fully Rationality based inventions alias ETCIs from patent-eligibility – in spite of their often being extremely meritorious.[321] Yet its recent decisions indicate its getting in line with the Supreme Court's requirements.

.c: – clearly to be *MBA* framework based and thus implicitly again rejecting the CAFC's then practiced claiming method –

.d: 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* [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. ...*"

The *Alice* decision then itself explicitly hinted at some characteristics of this content, e.g. the notions of "element", "combination of them", "particular application", "preemption", ..., and especially the all overarching and therefore indispensable notion of "inventive concept" enabling construing this notionally meaningful outer shell for an ETCI, called its by the Supreme Court's *Biosig* decision construed "claim interpretation" – on top of which the ETCI's definiteness, patent-eligibility, and patentability may be analyzed and stated, i.e. the ETCI's claim construction may be construed on this outer shell by using there precisely/exactly defined notions such as "the scope" of the ETCI for deciding its definiteness, "the nature of an nPE claim[ed invention]" and "the significantly more [than a patent-noneligible invention]" alias "inventive *Alice* concept" for deciding its patent-eligibility, and "the semantic height over prior art" for deciding its novelty and even nonobviousness (= patentability) over prior art, all these being notions unknown within this outer shell.

.e: Kant – knowing the crux with claiming in natural language[1.a)] – postulated as his respective hypothesis: "*I maintain that in any special doctrine of nature only so much real science can be found, as there is mathematics found*" ["Metaph. Found. of Nat. Sci.", 1786].

An SPL precedent about an ETCI just as the specification of an ETCI – in both cases represented by its inventive concepts[9.b)], as by the Supreme Court's *MBA* framework required – is a "*special doctrine of nature*". It is a "Finite First Order Logic, FFOL" statement[320] – hence easily formalizable = mathematizable, as correctly predicted by Kant – and representable as FSTP-Test[301]. Currently the patent community broadly does not yet know that – as its SPL understanding is on the "pre-*A* level of development".[1.a)]

.f: here e.g. *Alice*'s O-level doctrine about the patent-eligibility problem, thus enabling its mathematical resolution – if correctly applied.

Next is shown[3.a)] **1.)** the fundamental shortcomings of all pre-*A* claiming – by John Duffy's essay not noticed but nevertheless revealed (by his zooming in on the becoming of this claiming) – and **2.)** his critics of "*literalistic claiming*" is fully confirmed by my concurring observations[b)], yet positively relativized as this claiming's deficiency finally made the CAFC accept the Supreme Court's *MBA* framework. Section II thus, by **1.)** and **2.)** shall stimulate recognizing the fundamentally superior notional quality of post-*A peripheral claiming* an ETCI to its pre-*A literalistic claiming*[c)] – and only this. This enormously important effect of the shift of ETCIs' SPL precedents from pre-*A literalistic claiming* to post-*A peripheral claiming*, initiated by the Supreme Court, had namely for a long time remained not at all recognized.

ad 1.): A few cognitions suffice to recognize that today's representation of SPL precedents about ETCIs is Rationally[1.a)] absolutely untenable, due to its deficient (non)definitions of its pre-*A* SPL notions, caused by:

- No definition of an ETCI's notional being (as not definable[326] by its limitations but requiring its inCs).
- Only vague definitions of an ETCI's notions' claim interpretation and claim construction (as both notions' definitions[326] – without interpretation base – are dangling in the air), and none of their input.
- Only vague definition of the scope of an ETCI, and none of its preemptivity (by the same ground).

ad 2.): John Duffy essay's elaborations on the *literalistic claimings*' aspects being detrimental to innovations meanwhile also put my mind at ease, as it conveys a message again not noticed by it. I.e.:

- I fully share all of his very serious concerns about the devastating damper on many researchers' and inventors' extraordinary excitement indispensable for investing and risking all of that personal and/or financial extra effort usually necessary for finding the concrete practicable way to/of refining an initially wishful abstract idea to a patentable invention.
- Yet his essay falls short in discussing the questions presented on the preceding page and which the Supreme Court required by to be clarified for any ETCI the *MBA* framework way: whether it comprises a doctrine assessing especially its being definite & useful & of limited preemptivity.[320]

  I.e.: The CAFC had absolutely correctly felt that there must have been a way to overcome the indeed high degree of uncertainty/vagueness immanent in the peripheral claiming of a nontrivial invention. But by trying to improve the claiming's preciseness the CAFC deviated from peripheral claiming in a disastrous way, as John Duffy also absolutely correctly noticed. Instead, the CAFC should have appropriately refined the SPL notions[d)] such as required by the Supreme Court[2.d)] (and in the FSTP-Project done[320]). Thus, in its striving for clarity of claiming, the CAFC proceeded in the wrong direction: Instead of correspondingly refining the notional resolution as to the SPL representation of an invention without affecting it, by developing a *literalistic claiming* the CAFC did not refine its such notional resolution but changed the interpretation of the representation of it and thus itself – being a serious legal error.

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[3] **.a:** These references to John Duffy's essay do not necessarily mean he would confirm my here statements about it.
Nevertheless it is the ideal platform for showing that the notional resolution of pre-*A* SPL parlance – which his essay reflects at its best and that fully suffices for CTCIs (= classical technologies' CIs) – is by far too coarse for achieving rationality[1.a)] in SPL precedents about ETCIs and hence for guaranteeing consistency and predictability therein.[1.a)] This will be made totally evident in[320].
Finally: All *A* enforced cognitions are presented very briefly only as not being this MEMO's focus, but that of[320].

.b: As inventor, who also developed&received patents – due to my background, I'm going only for pioneering ETCIs – I had to repeatedly experience that frustration myself, as (re-)examiners or judges often qualify such patent applications or issued patents as obvious, for the very literalistic claiming criticized by John Duffy in his essay for the first time publicly and very very meritoriously.
This applies especially if it is a pioneering ETCI, e.g. currently FSTP technology – as these often aren't carried by an enlightening inC but several allegedly uninteresting as negligible inCs, therefore for a long time having remained not carefully analyzed.
In an ETCI's pre-*A*-to-post-*A* transformation the often vague pre-*A* notions of its "*literalistic claiming*" are replaced in the latter also vague compound inC by their exact and precise post-*A* notions of an ETCI's equivalent "*peripheral claiming*", explained in detail already in[64] – whereby a "claiming" of an ETCI in usual philosophical or mathematical language is nothing else but a well-known specific form of definition[326] of an ETCI. I.e. partially i.o.w.: An ETCI's pre-*A*-to-post-*A* transformation of the pre-*A* notions of its "*literalistic claiming*" comprises two aspects: Transforming the ETCI's compound paradigm's vague pre-*A* notions into 1. exact and these 2. into precise elementary post-*A* notions of the ETCI's "*peripheral claiming*". Thereby "**exact**" tells that this paradigm clearly models the ETCI's relations to the *MBA* framework's notions and "**precise**" that the same holds for the elementary paradigms' modeling.[320] Prior to the by the *MBA* framework required description of the ETCI by inventive concepts this exact-/preciseness was just unthinkable.[320]

.c: Einstein put this by an as simple as ironic metaphor, when he stated that most of the for mankind important future innovations would take place somewhere behind the 10th position behind the comma (freely recalled from my memory).

.d: This refined claiming is often alleged to be the Supreme Court's self-inflicted destruction of its classical *outer shell claiming*. But the opposite is true. The Supreme Court's *refined claiming* fully preserves the outer shell claiming and solely tests of an ETCI – always having additional properties – under SPL their meeting the resp. requirements. I.e., refined claiming only complements SPL's classical outer shell interpretation of ETCIs by additional SPL requirements for adequately dealing with ETCI's additional properties over CTCIs.

III. The Coherent post-*A* Notion of "Claiming" an ETCI – and its Misunderstanding in *IV*

A list with the most important definitions of the now holding SPL notions in English, i.e. of the such post-*A* "*peripheral claiming*'s" absolutely precise – hence even in mathematical representation – will be provided in[321]. Most of them are identified above in[ad1.)], stating to be of highly speculative Metaphysics or even completely missing in/for "*literalistic claiming*" of ETCIs, by far not exact&precise enough for dependably correct use in court cases about them and alike. Their detailed explanation will comprise about half of[182].

For stimulating the cognition of the infinite superiority of all notions of post-*A* peripheral claiming over the corresponding notions of pre-*A* literalistic claiming – the latter even doesn't know the two currently most important ones being "inventive concept" and "preemptivity" – the FIG2 in footnote[4.a)] shows the EDA-Test in mathematical notation for determining an ETCI's patent-(non)eligibility (its IDL[320] notation is just restricted natural English). It need not be comprehensible, here, for showing its simplicity.

A final word concerning – after the harmony between the Supreme Court and the CAFC in the line of the latter's decision initiated by *DDR* and recently continued by *Enfish*/*TLI*/…/*BASCOM* – the surprising decision in the *IV* case. It shows the need to be aware that the Supreme Court by its *MBA* framework established as to ETCIs not just a superficial but a really groundbreaking paradigm change, specifically addressing their peculiarities. Correctly meeting these ETCI peculiarities specific Supreme Court requirements is trivially impossible, if these are partially ignored. This holds, first of all for the proper use of the notion "inventive concept": It must not be used – as it happens in the *IV* decision's majority

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[4] **.a:** The FIG1 and FIG2 show •the disaggregation of the 5 pre-*A* compound social concerns – being the pre-*A* paradigm of SPL (legally encoded by the 4 Sections §§ 101/102/103/112 of 35 SPL) – into the 9 post-*A* nonredundant independent[326] elementary such concerns (if 1 of the 4 redundant/dependent[326,] elementary concerns called EDA4-7 is removed) – being the post-*A* paradigm of SPL (also/still legally encoded by the 4 Sections §§ 101/102/103/112 of 35 SPL) – respectively •the *MBA* framework, especially *Alice* based representation of the EDA-Test. The latter would become the complete FSTP-Test (in this representation) if EDA8-10 were completed by lines 7)-9) of FIG1 in[300]. Thereby the post-*A* elementary concern EDA1 is by the O-/A-/E-levels of abstraction[271] (and the therein quoted *MBA* framework requirements) composed of several even further refined yet dependent post-*A* "atomic"[326] eligibility determining aspects.

More detailed information about the pre-*A*-to-post-*A* transformation claiming an ETCI[3.b)] – in particular this transformation of the pre-*A* paradigm of SPL to its post-*A* paradigm of SPL – will shortly be provided by[320,321].

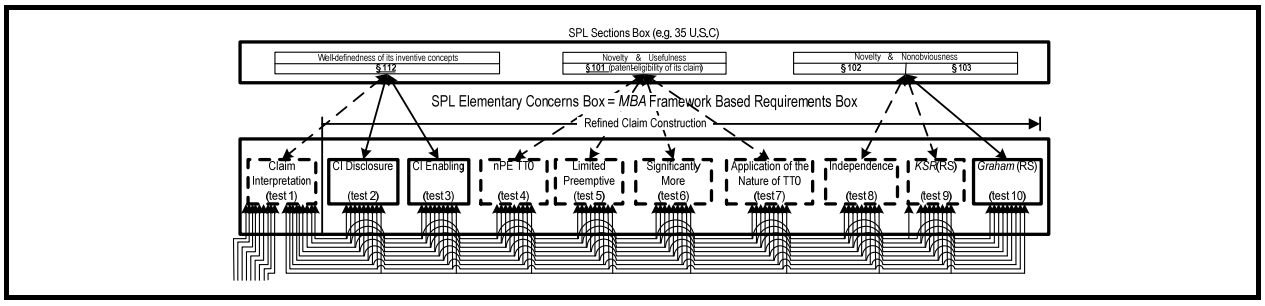

FIG1: *The Structure of the Transformation of the pre-A Paradigm of SPL to the post-A EDA Paradigm of SPL*

Omitting this test's "0-infixes" and "E-prefixes", generate or evaluate by T/F for COM(CI) **::=** CI values of I,N,K^1,…,K^N,K **::=**$\sum^{1\le n\le N}K^n$, and definitions ∀A-crCS::={A-crCn |1≤n≤N} and E-crCS::= {crCnk v ncrCnk |1≤n≤N∧1≤k≤K^n }, optionally with user-names, such that in the **EDA-Test** holds, in a CI's **i)**claim interpretation generated by its inventor and in its **ii)**claim construction evaluated by its pposc&examiner, the

EDA1: CI meets § 112, meaning: A-crCS = {A-crCn, ∀1≤n≤N} **::=** {$\wedge^{1\le k\le Kn}$(crCnk v ncrCnk), ∀1≤n≤N} ∧
∧ E-crCS is (new∧useful∧definite∧complete by **i)**) ∧ (new∧useful∧definite by **ii)**);
EDA2: CI is lawfully disclosed, as all crCnk are lawfully disclosed, just as their peer leCnk, with EDA4-7, 1≤n≤N ∧ 1≤k≤K^n;
EDA3: CI is enablingly disclosed, as the implementability ∀ 1≤n≤N A-crCn, embodying all its crCnk 1≤nk≤K^n, is disclosed;
EDA4: CI comprises an "**nPE TT0**", meaning: $scope(crCS^{TT0}) \neq^{+} \Phi$;
EDA5: CI is "**limited preemptive**", meaning: $(scope(crCS^{TT0}) \neq^{+} \Phi) \wedge (\prod^{TT0} scope(crCS^{CI}) \subseteq scope(crCS^{TT0})) \wedge (crCS^{Alice} \neq \Phi)$;
EDA6: CI is – as indicated by "**inC**^{Alice}**"** – "**significantly more**" than TT0, meaning: $crCS^{Alice} \neq \Phi$;
EDA7: CI is an "**application of the nature of TT0** ", meaning: $\prod^{TT0} scope(crCS^{CI}) \subseteq scope(crCS^{TT0})$;
EDA8: ····
EDA9: ·····
EDA10: ····

FIG2: *The Definition of the Components of the post-A EDA Paradigm of SPL*

view – as if it were the ETCI's accessory part, but as a part indispensable for its invention's working. This will be explained as soon as possible and in detail in[321] after having clarified[320]. But what should be recognizable already here is that being aware of the now available post-*A* definitions of the crucial notion "claiming" will greatly help to get rid of such misunderstandings as occurred in *IV* – being very instructive.

The FSTP-Project's Reference List

FSTP = Facts Screening/Transforming/Presenting (Version of 10.10.2016*))

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

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