— §101 / Patent-Eligibility (PE) — PART I

Only for CIs ('(nonrefined)Claimed Inventions') or also for ETCIs ('(refined)EmergingTechnology CIs')?[1.a)]

Targeting SARS CoV-2's vaccines.

Sigram Schindler *)
TU Berlin & TELES Patent Rights International GmbH ('TELES-PRI').
www.FSTP-expert-system.com

An ETCI's virus is a game changer of classic SPL by its '$^{IEM\geq 0,\circ X,\circ Y}$**Set-(of)Execution-Tracks**', (abbr. $^{(ETCI)}$**SET**).

An $^{(ETCI)}$SET is defined by a pair ($\circ X \in$ ETCI, $\circ Y \in$ its Y), $\forall 1 \leqslant P \leqslant {}^{IEM\geq 0,\circ X,\circ Y}P^{max} \in \{\mathbb{N} \cup \infty\}$, & $\forall$ $^{P,IEM,\circ X,\circ Y}$tupels ::= $<^{P,IEM\geq 0,\circ X,\circ Y}(\mathbf{B},\mathbf{E})>$ ::= ::= $\{< (^{P,IEM\geq 0,\circ X,\circ Y}\mathbf{B}^{(egin)}$ is a wild type (un)modified mRNA , $\mathbf{E}^{(nd)}$ is a ^{DNA}sequence totally neutralizing this $^{P,IEM\geq 0,\circ X,\circ Y}$MUT) $>\}$.

***Box A**: The ^{DNA}**K**$^{(nowledge)}$**R**$^{(epresentation)}$ **2.c)** of the '**mutation**' meaning of the VIR°X & VAC°Y preserves ∀ ETCI all its properties by the Supreme Court's $^{(refined)}$SPL-Framework**2.b)** – by it publicly & repeatedly required. If the SET ∄ yet in ^{mRNA}R&D, it seems adjustable to an ∈ [633-638].*

This definition (without IEM[626]) trivially implies: ∄ pair (°X,°Y) ∉ $^{(ETCI)}$SET. Thus for no P there is no °Y ranging outside of Y alias SET**g)**. This dramatically reduces the number of base pairs of specifications of PE[626] ETCI's potential vaccines[626] in ^{DNA}KR to test for ∃ in ^{DNA}(R+D). I.e.: ∀ ETs anytime the set of MUTs are predictable.

**) I admire K. Kariko, U. Sahin, T. Schlake, et al – for ^{mRNA}innovations[e.g.633-638] by Berkeley-/Kant-/Einstein-/Parnas-/.../Watson+Crick-style.*

1a This mail is not in textbook style – it is a summary of several preceding FSTP mails!b)
A **VIR**(us), **MUT**(ation), & **MUTVAR**(iant) are in classic SPL '^{n}**PE**, **non-patent-eligible**' – as only 'man-discovered', but not 'man-makeable'. **VAC**(cines) & **VACVAR**(iants) are ^{n}**PE** or **PE**. These qualities are caused '**intern/extern**' to these notions ('^{IEM}**virus**, ^{IEM}**X**, ^{IEM}**ETCI**, ...')**2.a)**, in 'Framework SPL' called '**Natural Phenomena**' or '**Abstract Ideas**', & initially being of metaPhysics (i.e. not fully definable), yet rational as soon as tied into an ETCI[622]. Kant already recognized their indispensability of Maths.
The US Supreme Court noticed – first worldwide – that patenting an **ETCI** indispensably requires a notional refinement of the **classic** US **Substantive Patent Law ('SPL')**, called '(SPL-)**Framework**'. From this Supreme Court's SPL **specification**, the USPTO & CAFC derived another SPL – **allegedly**f) ●of the same meaning & ●easier to grasp than the Supreme Court's one.
The SET is the finite graph of all potential 'execution tracks'[182,626] of a human genome, of which ●only a single track '°Y' is used per ETCI's P-interval, whereby ●its number of combinations per track & per P is the same (and huge, unless minimized[626]).
Yet, this CAFC/USPTO SPL-refinement is hopelessly wrongf**. Both of them totally scarred**f** the brilliant – but non-trivial – Supreme Court's SPL-Framework: They both thus put the patent community into dissenting kinds of 'SPL-refinement guessing modes'[359,360, 376,...,...], confirming the massive distortion**f** of Supreme Court's rational SPL-requirements**2.d)**. Instead of rationalizing this Supreme Court's refined SPL interpretation – based on its *KSR/Bilski/Mayo/Myriad/Biosig/(Alice)***2.d)** decisions' requirements, for which the Supreme Court publicly & explicitly asked – CAFC, USPTO, ... stuck with their absurdities**f**.**
I.e.: Only the scientific interpretation of the Supreme Court's SPL-Framework enables & enforces consensus about PE.

b The foundation/axiomatics of Mathematics – & this mail – is based on totally rational ●Philosophy, ●on top of it materialistic & idealistic Physics, and ● today's materialistic & idealistic technicities & SPL qualifications – **BUT NO ^{MB}HANDICRAFT** (following the above styles).
This focuses him, in reading ^{MB}patent(application)s, on their ●abstracts, claims, ^{MB}basics, & scientific 'coercive detention' [BOX B], & hence ●basing this mail's results solely on Maths and its rational philosophic foundations – just as Maths, i.e. ∄ any Maths not based on rational philosophic.**c)**

c Thus, this mail models **^{mRNA}strategies for specifying vaccines against $^{IEM\geq 0}$VIRs, e.g. SARS CoV-2.** Hitherto, a model for $^{IEM\geq 0}$ETCI patent(app)s does not exist. G. Berkeley & I. Kant (17th/18th century) adumbrated a '**rational**[577] **invention**'[622] – being necessarily 'idealistic' additional to its being 'materialistic', as its properties are vague/imprecise/incomplete/instable/... /non-definable exactly.
In the industrial 18th-20th centuries, due to their huge number of materialistic inventions needing only the classic SPL for their PE[182], this adumbration got forgotten. But with the advent of overwhelming ETCIs, the Supreme Court indispensably had to rediscover the substance of this '**rational cognition**' model[182] for enabling rational ^{IEM}ETCIs. Though such a model is not noticed – as not explicitly stated by the Supreme Court's SPL framework – it yet therein is logically implied, esp. its rational notion '$^{(IEM)}$PE'. This in turn by '**FSTPtech**' enables **automatically** claiming an ^{IEM}ETCI / testing its ^{IEM}PE / ...

d NOTE 1: An ^{IEM}ETCI's rationalization / mathematization (i.e. its scientization) is in classic SPL totally impossible.e)

e Any rational PE problem solution is by definition a '**(pre)Rational**, **(p)Rat**' notion[621ftn3.a),622], i.e. an ISL sentence, i.e. an ∈ of a rational **ontology** (= set of non-redundant '**relations**'[326], here an '^{n}**red ISL**[372] **sentence**', i.e. not '***truly-mPhys*::= (mPhys ∧ ^{n}pRat)**'.
Thus, it is impossible to rationally (i.e. uniquely) resolve a PE problem defined by an ETCI**2.b)**, which is not (equivalent to) a compound notion of a (p)Rat (⊃ Rat) ontology, i.e. is not a PE problem. An ETCI's rational §101-problem solution (i.e. of only notions being ∈s of a (p)Rat ontology, e.g. its ***natural phenomena*** and/or ***abstract ideas***[622]) is irresolvable in classic SPL – as it is too coarse.

f As CAFC & USPTO unisono until recently publicly claimed the Supreme Court's SPL reinterpretation were allegedly incomprehensible, the author contacted them for clarifying the indispensably correct interpretation. All in vain. Thus, many CAFC / USPTO decisions about ETCIs – esp. ^{DNA}patent(application)s – contradict the Constitution, as contradicting the Supreme Court's requirements.**2.e)** Namely:

- Both authorities **ignore** 2 fundamentals of the Supreme Court's (p)Rat PE requirements, for adjusting SPL to the needs of ETCIs: **+**stated by its *Alice* decision's PE specification for an ETCI passing it[622], esp. for assessing their **+**"**R&D minimal invasivity**" & "**limited preemptivity, 'PR'**".
- As to the Supreme Court's 5 additional pRat**d)** requirements that define its SPL-framework's meaning – "***application of ^{nPE}TT0***", "***directed to ...***", "***transform the nature of the claim***", "***significantly more***", "***inventive concept***" – the same happened or both authorities truly-mPhys reasoned by these 5 notions[619,622ftn2.b)], thus directly contradicting the Supreme Court's requirements, i.e. the US Constitution.

I.e.: The CAFC (& USPTO) ignored or falsified all 7 key requirements of the Supreme Court's SPL framework & PE specification – not to speak of the logically/implicitly Supreme Court's SPL framework required notions **virus** & **internal/external mutation** (detailed in**2.b)**).

g I.e., any ETCI's (P+1)-VIR-interval expands any P-tupel (not ^{MB}dead) into a potentially large but bounded number of (P+1)-^{DNA}sequ- .... This enables testing all feasible (**B**,**E**)-combinations – today not (yet) automatically determinable.

The Supreme Court's SPL-Framework & MB's mRNA based PE-Test for MUTing – i.e. **recursive** ('**rec**') – ETCIs comes with intricacies as to their '**IEM**'-parameters: Their in-/external-values namely play 2 different roles – in one enable the (in)formal correctness of the Supreme Court's CBN at issue by test**1)-3)**, in the other one the same as to CBN's properties by test**4)-7).**

CBN(ETCI)'s Claim Interpretation, CI	***<input ::= CBN(ETCI). Test of basic requirements' correctness in 1. loop informal & in 2. loop formal>***	begin:
1)	if **[**CBN(ETCI)**::=** $\Pi^{1\le n\le N}$crCn **::=** ^{RTS}E-crCS$^{[622]}$**::=** $\Pi^{1\le n\le N}$ $\Pi^{1\le kn\le Kn}$E-crCkn is correct & definite & independent**]**	then go on
2)	if **[**E-inCkn, ∀1≤kn≤Kn∧ 1≤n≤N are ex- or implicitly lawfully_disclosed**]**	then go on
3)	if **[**E-crCkn, ∀1≤kn≤Kn∧1≤n≤N are ex- or implicitly rationally_specified**]**	then go on
	<output 'CI(ETCI) is in 1. loop informally of structural correctness & as in 2. one mathematical'>	stop.
Incredibly: Several CAFC §101-decisions are based on its erroneous assumption that the ETCI at stake would meet these 3 (Supreme Court) requirements! **[182]**		
CBN(ETCI)'s Claim Construction, CC:	***<input ::= CI(ETCI) is in 1. loop informally of structural correctness & as in 2. one ……..'***	begin:
4)	if **[** ∃ E-**x**crC$^{\#1}$∈E-crCS^{T0} **[622]**	i.e.: 'ETCI comprises an ^{n}PE T0**::=** E-crCS^{T0}**]** then go on
5)	if **[**((∃ E-crC$^{\circ 1}$∈E-crCS$^{ETCI\setminus T0}$) **H** (∃E-crC$^{\circ\circ 1}$∈E-crCS^{T0}))	i.e.: 'ETCI's application uses T0 hierarchically'**]** then go on
6)	if **[** ∃ ^{Rat}E-crC^{*1}∈E-crCS$^{ETCI\setminus T0}$ **:** ^{Rat}E-crC^{*1} **+** E-crCS^{T0}	i.e.: 'ETCI is significantly more than T0$^{d)}$'**]** then go on
7)	if **[**$\lvert$ {E-xcrC$^{\#1}$}$\rvert$ = $\lvert$ {<E-crC$^{\circ 1}$, E-crC$^{\circ\circ 1}$>}$\rvert$ = $\lvert$ {^{Rat}E-crC^{*1}}$\rvert$ = 1	i.e.: 'ETCI is ^{mRNA}(R\D)-mini-invasive & ^{n}PR$^{(eemptive)}$'**]** then go on
	<output "CC(ETCI) is correctly proven PE in 1. loop informally & in 2. one mathematically'	stop.

Box B: Thereby holds: test**1)-3)** are shared by §§112 & 101 and may imply IEM>0. For ETCIs, the Supreme Court implicitly requires unique properties – in classic SPL impossible**1.d)**, as there this uniqueness is lacking (due to any ETCI being model based). This is trivially evidenced by e.g. test**6)** – just as for test**4)/5)** & test**7). 2.a)**

In test**4)** the **x** means: '***is-of-preRat-transformation***'**[622,621];** in **5)** the **H** means: '***is-of-halt-in-hierarchy***'**[278];** in **6)** **+** means: '***It is-not-an-ISL-ComBiNation, CBN***'**[372]** of E-crCS^{T0}**;** in test**7)** it means: ETCI '***is-of ●minimal-invasivity-into-the-freedom-of-reseach & ●non-preemptivity'.*** **[626]**

All in all: The Supreme Court's SPL-Framework ∀ ETCIs implies its indispensable hard scientificy, which CAFC & USPTO grossly misunderstand**1.f),2.b)** & hence replace it by their incomprehensible/inconsistent/ETCIs-patenting-incapable interpretation – that consequently contradicts the Supreme Court's required notional SPL-refinement.

2a Of the145 replies to the USPTO's invitation (dated 08.07.2021, for Congress'es**[640,641]** '**§101-PE dilemma**') only 13 mention the notions '**virus** / **mutation**', none the notion '**internal / external cause of MUT**, **IEM**' – although by the Supreme Court's SPL-framework logically implied**[182]**.

These 13 replies still contradict the Supreme Court required SPL framework, due to CAFC's gross SPL framework misinterpretation**1.g)**, thus rendering the SPL framework truly-mPhys**1.d)**, i.e. incomprehensible**1.d)**. By the same reason, none of these 145 replies recognized the automatableness of correctly drafting ETCIs' patent claims**[e.g.46]** & of totally robustly PE-testing them – which likely had unfolded the Supreme Court's brilliance of §101 interpretation (not thought of at its creation).

These 3 notions are implicitly but logically required by the Supreme Court's 'Framework' alias §101/PE interpretation – yet unnoticed!

b Resolving the PE-problem rationally/logically by the CAFC's PE-definition is impossible, as shown in**d)**. *Alice* defines '**patent-eligibility, PE'** specification**d),[Legend Box B]** esp. on its page 7, its rest, & by its context in *KSR/Bilski/Mayo/Myriad/Biosig* – as transforming an **1.)** ^{n}PE teaching '**T0**' into a **2.)**true application '**A**' of it, enabled by a **3.)**T0 independent inventive concept '**IC**', comprised by or separated from A.

NOTE 2: *Alice* defines "**ETCI**" as **<an ^{n}PE teaching T0, with its true application by A, & its T0-independent inventive concept IC>**.

Most CAFC's/USPTO's created PE problems are caused by its/their much tighter notion of PE than the Supreme Court's one.

c An $^{MB\ v\ SPL}$ETCI uses in its PE test its '^{DNAvSPL}**canonical**' KR (**Box B**) – or their refined '^{DNA}***geometric***' KR, or t its further refined …. KRs (see **Box A**), e.g. further refined '^{DNA}***chemical***' KRs, ….., whereby most of these KR refinements usually are still unknown **[626]**.

The morphology & phenomenology of any ETCI is the same in all its KRs – holding also in any IEM sensitive isomorphism based on refining 1 or both KRs (no matter whether it is known or not) and for any 2 neighboring PIs (in any loop comparison). **[626]**

d **NOTE 3**: This ftn shows, ●why test**4)-7)** are indispensable for guaranteeing that the FSTP-/PE-Test avoids delivering (irrationality) faults**[182]**.

No test**4)**: '**Then ETCI is determined PE, otherwise it**, (**TEPoi**)' comprises no natural phenomenon concept**[622]**.

" test**5)**: TEPoi's alleged T0-application is none (by trivial reasons, e.g. as its application is not hierarchically using T0)**[622]**.

" test**6)**: TEPoi is construable in T0**[372]** – i.e. ^{Rat}E-crC^{*1} does not add another dimension to T0, i.e. transformT0 into significantly more than T0.

" test**7)**: TEPoi is **+**too fast preemptive and/or **+**by definition not minimally invasive into the realm of R&D's freedom**[626**,as trivial or too volumin.**]**.

●and passing test**1)-7)** is additionally necessary for IEM>0**[626,182]**.

∀FSTP-mails reflect ongoing research (holding until**[182]**) & hence work with slightly changing notions/layouts/….; e.g., ∀E-crCs pre-/postfixed by indices, e.g. $^{\#..,\circ..,*..}$, are ∈E-crCS. Thus, any PE ETCI is by its PE definition passing test**4)-7)** – here in ^{SPLcan}KR.

e At the NY FCBA 04.10.2017, Bench & Bar meeting**[432]**, the quoted CAFC judges unisono declared twice their aversion to rationality's clarity of thought. Their statements are here not repeated, as the organizer at the beginning of the event promised. Yet, their 2 comments on my 2 short statements about my scientific research of the Supreme Court's line of SPL-framework are telling much. Namely: ●'… this may be meritorious elsewhere, but has nothing to do with jurisdiction' & ●'nobody cares for rationality in legal decision making'.

Hence, CAFC's gross misinterpretation**1.g)** of Supreme Court's required SPL-Framework is not surprising.

Partial Reference-List of FSTP-Emails+)

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[500] S. Schindler: "Andrei Iancu's § 101 Challenge ……, 14.11.2018
[619] S. Schindler: "The Meaning is of Any ETCI's 'Appl.', its 'Inventive Con.', and ….", publ.12.05.2020-)
[621] S. Schindler: "Patent Business – Before Shake-up", pub. 2017 & lim. publ. 04.04.2021+)
[622] S. Schindler: "The CAFC's ETCI Precedents is of MetaPhysical SPL, …", publ.XXYY.2022+)
[626] S. Schindler et al: "Generati math. ^{mRNA}Vaccines, **PART II**", to be publ. in Q4//2022, too.
[628] S. Schindler: this mail **PART I**, publ. 15.10.2022+)
[631] S. Schindler: "An Easy Question About § 101", publ. 30.05.2021+)
[633] K. Kariko & U. Sahin: "Meth. for Reducing Immunogenicity of RNA", **BIONTECH**, US Pat Appl. 2020/.629+)
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[637] G. Claramella et al.:"Nucleic Acid Vaccines", **MODERNA TX**, US Pat. Appl. 2021/…467 A1+)
[638] ?. Langedijk "Comp. & Meth. for Preventing & Treating SARS-COV-2.",, US Pat. Appl., 2021/…170+)
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[640] T. Tilly & T. Cotton: "Letter to USPTO', 22.03.2021+)
[641] T. Tilly : .....questions as to §101 .....

+) **The complete Reference-List is on www.FSTP-expert-system.com**