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STATEMENT OF GROUNDS OF APPEAL

BY EPOLINE
27 May 2020

Our ref: RJ/N35111-EPAPP
Your ref: 18275163.6

Dear Sir/Madam,

**Appeal Against Decision of the Receiving Section of 27 January 2020
European Patent Application Number 18275163.6
Applicant: Stephen L. Thaler**

This letter and the accompanying Annex constitute the applicant's Statement of Grounds of appeal against the decision of the Receiving Section of 27 January 2020 to refuse this application. The applicant has already filed the Notice of Appeal, on 13 March 2020, and concurrently paid the appeal fee.

The accompanying Annex addresses in detail the case law, other alleged precedents and other facts relied upon by the Receiving Section in its reasoned decision, particularly as set in the footnotes thereto. The Annex forms an integral part of the applicant's Grounds of Appeal.

These Grounds of Appeal and their Annex are additive to the submissions made of behalf of the applicant in the proceedings before the Receiving Section, which are not repeated in these Grounds of Appeal to avoid duplication.

The applicant requests that the decision of the Receiving Section be set aside, the application be reinstated and that DABUS, the actual deviser of the invention the subject of this application, be named as the inventor in accordance with the provisions of Articles 62 and 81 EPC and Rule 20 EPC.

Should the Board of Appeal consider not granting the applicant its requests, the applicant requests oral proceedings.

The Grounds of Appeal are set out in four sections, as follows:

Section 1 – Preliminary Observations on the procedure before the Receiving Section and on the issues in this case

Section 2 – General Submissions on the Decision of the Receiving Section

Section 3 – Paragraph by Paragraph Remarks on the Reasons for the Decision

Section 4 - Concluding Remarks

SECTION 1 - PRELIMINARY OBSERVATIONS

1) Procedural Inconsistencies

1.1 Premature refusal of the application in breach of the provisions of Rule 60

This application was filed on 17 October 2018 without any claim to priority. As a consequence, the date of expiry of the 16-month term for filing the designation of inventor was 17 February 2020.

The Receiving Section did not respect this term and refused the application prematurely in its oral decision of 25 November 2019.

There is no provision in the EPC that gives the Receiving Section the power to curtail the 16-month term prescribed in Rule 60 EPC. Reference can be had, for example, to the Legal Board of Appeal decision J1/10.

Further submissions are made in section 20 below in connection with the Receiving Section's justification for curtailing the term.

1.2 Decision based on facts and evidence not previously presented to the applicant

The reasoned decision of the Receiving Section includes multiple references to facts and evidence that were not notified to the applicant before the oral proceedings, during the oral proceedings or before issuance of the reasoned decision. Comparison can be made with the annex to the summons to attend oral proceedings issued on 13 September 2019 and the large number of footnotes in the reasoned decision of 27 January 2020.

As a consequence, the decision of the Receiving Section is based on facts and evidence upon which the applicant did not have an opportunity to comment, in breach of the provisions of Article 113(1) EPC. As a further consequence, these Grounds of Appeal are the applicant's

first opportunity to address in full the arguments, facts and evidence relied upon by the Receiving Section.

1.3 Failure to name the inventor on the published application pursuant to Rule 20 EPC

Rule 20 EPC sets a mandatory requirement on the European Patent Office to name the designated inventor in the published European patent application. This requirement is in no way qualified. The European Patent Office is obliged to do so irrespective of any issues regarding the designation of the inventor, including for example any challenge to the declared inventorship.

Reference can be made, for example, to Legal Board of Appeal decision J1/10, at paragraph 2.2, which states:

“Rule 20(1) EPC duly provides that the designated inventor must be mentioned in the published application. The reason for that is that this information needs to be available to the public as well as the EPO. It is therefore entered in the European Patent Register (Article 127, Rule 143(1)(g) EPC) and also published in the European Patent Bulletin (Article 129(a) EPC).”

The Receiving Section refused to name the designated inventor in the published application, enclosed as Attachment I to these grounds of appeal, in breach of this mandatory requirement. Not only did the Receiving Section fail to publish the details of the designated inventor, but it gave misleading information by stating that:

“The designation of the inventor has not yet been filed”.

This was factually incorrect and misleading. While the Receiving Section sought to explain this in the oral proceedings of 25 November 2019, that explanation is not accepted for the reasons set out, *inter alia*, from paragraph 3.19 below.

1.4 The issue of two separately appealable decisions when proceedings were consolidated

When issuing the summons to attend oral proceedings on 13 September 2019, the Receiving Section decided to consolidate the proceedings of this application with those of the applicant’s co-pending European application number EP18275174.3 on the basis that the issue to be decided was the same for the two cases (paragraph 5 of the annex to the summons of 13 September 2019 and paragraph 6 of the reasoned decision of 27 January 2020).

However, the Receiving Section subsequently issued separate yet identical decisions for the two applications, as can be verified from a comparison of the decisions issued on each case.

The applicant submits this was not a justifiable course of action as there is a single reasoned decision ensuing from the consolidated proceedings.

In issuing two separately appealable decisions, the Receiving Section has forced the applicant to pay two appeal fees and to file two identical appeals for what is for all legal and factual purposes a single decision.

A comparison can also be made with the parallel proceedings on these inventions before the UK Intellectual Property Office, now under appeal, where a single decision was issued in respect of the two patent applications in question following a similar consolidation of proceedings. A copy of the UK Intellectual Property Office decision of 4 December 2019 is enclosed as Attachment II.

1.5 The Receiving Section went beyond its jurisdiction in deciding this case

Paragraph 17 below, in particular, sets out in detail the factual and legal basis upon which the Receiving Section relied in reaching its decision; and specifically that the decision is based on issues of substantive law and fundamental legal principle which go far beyond the issue of a formal requirement of the EPC. The Receiving Section should have referred the matter to the Legal Division, which the applicant suggested it do in the course of the oral proceedings of 25 November 2019.

2) Inventions Made by AI systems

2.1 Remarkable technical advances are being made by artificial intelligence (AI) systems and these are becoming ever more sophisticated.

2.2 While some AI systems have been developed for test purposes, such as Deep Blue beating people at chess and Deep Mind beating people at Go, more recent developments have a much greater impact on our lives. Very important advances are being made in critical sectors such as in the medical field, in autonomous vehicles and so on.

2.3 These advances in artificial intelligence and specifically the fact that AI systems are conceiving and potentially conceiving patentable inventions has been widely reported as well as being the subject of formal steps to recognise this by patent authorities.

2.4 Enclosed as Attachment III is a copy of the Request for Comment on Patenting Artificial Intelligence Inventions published by the United States Patent and Trademark Office on 27 August 2019 and discussing particularly this issue. Reference is made in particular to Questions 2 and 3.

2.5 Enclosed as Attachment IV is a copy of the Conversation on Intellectual Property (IP) and Artificial Intelligence (AI) published by the World Intellectual Property Organisation on 13 December 2019, which also specifically addresses this issue. Reference is made in particular to question 7. WIPO has published a number of the responses submitted to its Request for Comment. Relevant responses from organisations and official bodies of the EPC member states are set out in section 7 of the Annex to these Grounds of Appeal.

2.6 Reference can also be made to paragraph 29 of the 5 December 2019 decision of the Comptroller of the UK Intellectual Property Office (Attachment II) which, in line with the Requests for Comment from the USPTO and WIPO, stated:

“As the applicant says, inventions created by AI machines are likely to become more prevalent in future and there is a legitimate question as to how or whether the patent system should handle such inventions. I have found that the present system does not cater for such inventions and it was never anticipated that it would, but times have changed and technology has moved on. It is right that this is debated more widely and that any changes to the law be considered in the context of such debate, and not shoehorned into existing legislation.”

The Comptroller’s decision is currently under appeal at the High Court.

2.7 In the present cases, both the EPO and the UKIPO have accepted that DABUS is the actual deviser of the invention of European patent applications EP18275163.6 and EP18275174.3, and their UK counterpart applications GB1816909.4 and GB1818161.0. This is entirely consistent with the representations made by the applicant, Mr Stephen Thaler, as to inventorship and is also consistent with the positions on AI inventorship indicated by the USPTO, WIPO and the UKIPO.

2.8 The issue of this appeal, correctly, relates to the right and duty of an applicant to name an AI system as the actual deviser of an invention and whether on the one hand patent law currently permits the naming of an AI system as inventor or whether on the other hand current patent law specifically prohibits the naming of an AI system as an inventor and/or prohibits patenting of inventions made by AI systems.

2.9 In this regard, the Receiving Section has sought to categorise this not as a right or obligation in law but as an issue of formal requirement. However, the grounds upon which the Receiving Section reached its decision are not based on formal matters but on substantive patent law and fundamental legal principle.

2.10 Leaving aside the issue of whether the Receiving Section has the jurisdiction to decide on issues of substantive patent law and fundamental legal principle, dealt with elsewhere in these Grounds of Appeal, the Receiving Section has not followed a correct approach or reached a reliable conclusion.

2.11 As set out below, the principles upon which the Receiving Section reached its decision are contrary to mandatory provisions of the EPC and other patent statutes, contrary to the *Travaux Préparatoires*, and also appear to suggest a way out of the formal requirement by a course of action that is not only fundamentally wrong but also suggests that the EPO would prefer the debate not to be held in its forum but by the courts of the member states. It would be regrettable if this were to be implemented as EPO policy.

2.12 As recent developments in particular have emphasised, there is no agreed wish in the world community to deny patent protection for AI generated inventions, but to the contrary there seems to be an overwhelming consensus that the AI industry must be supported by patents, just as any other technological field. This is confirmed in the responses to the WIPO Request for Comment and the USPTO's own request, as well as the observations of the UKIPO in its decision in connection with the corresponding UK patent applications GB1816909.4 and GB1818161.0. This is also supported by Dr Noam Shemtov in "A study on inventorship in inventions involving AI activity" commissioned by the EPO, where at page 24 Dr Shemtov states that:

"Inventions involving AI activity that are not obvious to the person skilled in the art should continue to be patentable."

2.13 The Receiving Section has sought to justify its decision on the basis that it does not relate to a matter of substantive law or principle but to satisfying a formal requirement. While the Receiving Section's position is untenable for reasons that should be evident from the submissions made before it and from those in these Grounds of Appeal, the singular and intended effect of the Receiving Section's decision is to deny the obtaining of patents for inventions conceived by AI systems. The only way around this, and obtain a legitimate patent for such inventions, is for an applicant to deceive the Patent Office, and the public, by naming a natural person instead of the actual deviser of the invention (the AI system). This would be a highly regrettable option, as even the Receiving Section alludes to in paragraphs 37 to 39 of its reasoned decision.

2.14 The fundamental implications of such a policy, if it were to be adopted as a standard, are addressed below in Section 4.

2.15 It is worth pointing out that the International Bureau of WIPO has accepted the designation of DABUS as the inventor on PCT patent application number PCT/IP2019/057809, which claims priority from this European application and co-pending application EP18275174.3. A copy of the published PCT application (number WO-2020/079499) is enclosed as Attachment V. Article 4 PCT and Rule 4 of its Implementing Regulations require that the name of the inventor be given as well as other indications concerning the inventor.

SECTION 2 - SUBSTANTIVE SUBMISSIONS ON THE DECISION

3) Summary of the Relevant Facts and Submissions

3.1 The appellant has the following comments on a number of the points made in the Receiving Section's summary of the facts leading to its decision.

3.2 With regard to paragraphs 3 and 4 of the reasoned decision, while it is correct that the applicant filed two Forms 1002, on 24 July 2019 and 2 August 2019, the second being corrective of the first, it was immediately evident as of 24 July 2019 how the applicant claimed to have derived the rights to the invention as this was stated explicitly in the Addendum filed with Form 102 on 24 July 2019.

3.3 We submit the applicant cannot be criticised for having indicated on Form 1002 a derivation of the rights either by employment or succession in title because the EPO online filing system does not permit the filing of Form 1002 unless one of these options is selected. The first filing of Form 24 July 2019 was solely a typographical error that was not spotted before the filing of the form, for the reason that the important aspect of the filing was the naming of DABUS, the actual deviser of the invention, and the information in the Addendum, which was intended to and did form an integral part of the applicant's designation of inventor.

3.4 While neither option provided by the EPO online filing system is appropriate in this case, we submit the applicant cannot be criticised for a limitation to the EPO system any more than the Receiving Section suggests it should not be criticised for publishing "a pre-drafted text which is automatically published in cases where no or a formally deficient designation has been filed" (paragraph 16 of the reasoned decision).

3.5 We submit also that there would be no justification in suggesting that the EPO online Form 1002 is consistent with all the possibilities for derivation of the rights to an invention because this is not the case. While Article 60 states that the right to a European patent shall belong to the inventor or his successor in title, or if the inventor is an employee this shall be determined in accordance with the law of the State in which the employee is mainly employed; this is not and cannot be an exclusive list of provisions that determine the right to an invention in a European patent or patent application. The reason, of course, is that the EPO is bound by Protocol on Jurisdiction and the Recognition of Decisions in respect of the Right to the Grant of a European Patent and in particular Article 1, which states that the courts of the Contracting States shall, in accordance with Articles 2 to 6, have jurisdiction to decide claims, against the applicant, to the right to the grant of a European patent in respect of one or more of the Contracting States designated in the European patent application. This seems to have been accepted by the Receiving Section in paragraph 39 of its reasoned decision, to which further reference is made below.

3.6 As a consequence, the EPO is bound by the Protocol on Recognition to accept a derivation of title based upon the law of any Contracting State having the jurisdiction to decide the matter. As an example only, the UK Patents Act 1977 provides for the following derivations of right to a patent:

Section 7:

- (a) primarily to the inventor or joint inventors;
- (b) in preference to the foregoing, to any person or persons who, *by virtue of any enactment or rule of law, or any foreign law or treaty or international convention, or by virtue of an enforceable term of any agreement entered into with the inventor before the making of the invention, was or were at the time of the making of the invention entitled to the whole of the property in it (other than equitable interests) in the United Kingdom;*
- (c) in any event, to the successor or successors in title of any person or persons mentioned in paragraph (a) or (b) above or any person so mentioned and the successor or successors in title of another person so mentioned. *[Emphasis added]*

Section 39 (Right to employees' inventions):

- (1) Notwithstanding anything in any rule of law, an invention made by an employee shall, as between him and his employer, be taken to belong to his employer for the purposes of this Act and all other purposes if—
 - (a) it was made in the course of the normal duties of the employee or in the course of duties falling outside his normal duties, but specifically assigned to him, and the circumstances in either case were such that an invention might reasonably be expected to result from the carrying out of his duties; or
 - (b) the invention was made in the course of the duties of the employee and, at the time of making the invention, because of the nature of his duties and the particular responsibilities arising from the nature of his duties he had a special obligation to further the interests of the employer's undertaking.

3.7 In other words, having regard to the options provided for in Form 1002, UK patent law provides not only derivation by employment or succession in title, but also:

“by virtue of any enactment or rule of law, or any foreign law or treaty or international convention, or by virtue of an enforceable term of any agreement entered into with the inventor before the making of the invention, was or were at the time of the making of the invention entitled to the whole of the property in it (other than equitable interests) in the United Kingdom”

3.8 Any applicant entitled to the rights to an invention under this provision would have equal difficulty with EPO Form 1002, for the same reasons as the designation of DABUS as inventor.

3.9 In paragraph 5 of its decision, the Receiving Section has not summarised the applicant's arguments reasonably in its statement:

“The applicant further argued that acknowledging machines as inventors would facilitate the protection of the moral rights of human inventors and allow for recognising the work of the machine's creators.”

3.10 What the applicant argued was:

“Patent law also protects the moral rights of human inventors and acknowledging machines as inventors would facilitate this function. At present, individuals are claiming inventorship of autonomous machine inventions under circumstances in which those persons have not functioned as inventors. This is fundamentally wrong and it weakens moral justifications for patents by allowing individuals to take credit for the work of machines. It is not unfair to machines who have no interest in being acknowledged, but it is unfair to other human inventors because it devalues their accomplishments by altering and diminishing the meaning of inventorship. This could equate the hard work of creative geniuses with those simply asking a machine to solve a problem or submitting a machine's output. By contrast, acknowledging machines as inventors would also acknowledge the work of a machine's creators” [Addendum to Form 1002]

and

“However, we submit that the principle of a moral right has to be considered to its fullest extent and not just limited to a person who is an inventor. The public also has a moral right to know who is/are the actual inventor(s) of an invention disclosed in a patent application or protected by a patent.

This becomes ever more relevant as AI systems generate ever more sophisticated technologies and often technologies that are beyond human capacity to develop (such as those derived from the processing and analysing of vast amounts of data).

It would be morally wrong, as well as legally wrong, for an applicant to fail to identify the inventive contribution of an AI system as this would lead to a

misrepresentation as to the origin of the inventive concept(s) disclosed in the patent application.

Moreover, inaccurately listing a natural person for an invention devised by an AI system would dilute the very principle of naming the inventor and would be unfair. While it would not be unfair to the AI system, which has no legal rights or interest, it would be unfair to other human inventors because it would equate the work of legitimate human inventors with those who were merely associated with an AI system that actually made the invention.” [pages 5 and 6 of the applicant’s submission of 25 October 2019 in preparation for the oral proceedings of 25 November 2019]

3.11 It should be clear from the above that what the applicant argued was much more fundamental than the indication given by the Receiving Section at paragraph 5 of its reasoned decision. There should be no question of “facilitating the moral rights of human inventors”. The moral rights of human inventors are enshrined in law, as is the obligation of the applicant to designate the actual deviser of the invention (Article 81 in conjunction with Rule 19 EPC, and the national laws of the contracting States). This is a fundamental right not to be treated lightly and not to be abused, for instance by the naming of a human in place of an AI system, solely to satisfy a formal provision, if this is what was being suggested in paragraph 39 of the reasoned decision of the Receiving Section.

3.12 With regard to paragraph 6 of the decision of the Receiving Section, with reference to paragraph 1.4 above, following the consolidation of the proceedings of the two European patent applications EP18275163.6 and EP18275174.3, there is in fact a single decision by the Receiving Section and as a consequence a single consolidated decision should have been issued.

3.13 The issuance of two apparently separate decisions but which in fact are identical has obliged the applicant to pay two appeal fees and to file two separate but identical Grounds of Appeal in connection with what is in fact a single decision. This is unjust. The position can be contrasted with the decision of the UK Intellectual Property Office enclosed as Attachment II, which is as combined decision following the consolidation of proceedings and which is progressing as a single, common, appeal.

3.14 With regard to paragraph 8 of the Receiving Section’s decision, Rule 19(1) EPC does not state that the designated inventor “must be a natural person”. The only basis for arguing that an inventor per Rule 19(1) EPC should be a natural person lies with a presumption following from the provisions of Article 60, which for the reasons given above cannot be deemed exclusive, and an assumption that an inventor would be human in the *Travaux Préparatoires*, which is discussed in detail below.

3.15 While the Receiving Section has in its reasoned decision referred to other sources allegedly supporting its position (which sources were not communicated to the applicant before the Receiving Section issued its decision) we set out below the reasons why these sources do not support the Receiving Sections decision and also why they do not provide a basis for a finding that the EPC includes any requirement that the inventor “must be a natural person”, as stated by the Receiving Section in paragraph 8 of its reasoned decision.

3.16 With regard to paragraph 12 of the Receiving Section’s decision, the applicant referred to Section 7(3) of the UK Patents Act 1977, that is:

“In this Act “inventor” in relation to an invention means *the actual deviser of the invention* and “joint inventor” shall be construed accordingly”
[*Emphasis added*]

for the reason that the European Patent Convention does not include a provision that explicitly states this. However, the applicant submits that there can no reasonable suggestion that the principle that an applicant is duty bound to identify the actual deviser of the invention does not form an integral part of the EPC as a fundamental principle of law. If the comments made in paragraphs 37 to 39 of the reasoned decision of the Receiving Section are intended to suggest otherwise, this cannot be right in law. The EPC, and especially a formal provision, should not entice an applicant to designate knowingly a non-inventor whether or not the mechanism for challenging an incorrect designation of inventor requires the rightful inventor or owner of the invention to act to correct the designated inventorship.

3.17 The applicant was also justified in referring the provisions in US law regarding the incorrect naming of inventors on US patent applications [18 U.S.C. § 1001], specifically that it is an offence knowingly to name as an inventor someone the applicant knows is not an actual deviser of the invention. Patent laws throughout the world are necessarily intertwined by harmonisation specifically but not exclusively by international treaties and conventions, to which most states are signatories. While the EPO may not be a signatory to such other international treaties and conventions, it necessarily must follow them by virtue of its ties to national laws, in particular on entitlement in this case via the Protocol on Recognition, and generally as accepted by the EPO.

3.18 With regard to paragraph 16 of the decision of the Receiving Section, the incorrect and misleading remarks made on the front page of the published application have already been addressed in part in paragraph 1.3 above.

3.19 The publication of a European patent application is of critical importance. It is a fundamental principle that the published European application must be accurate for the many reasons set out in the EPC and its Implementing Regulations. It is the publication itself that informs the public of the content and bibliographic data pertaining to the application and the public is entitled to rely upon it. While a knowledgeable member of the public may know that it is possible to access the EPO Register, this does not mean that the information on the

published application should be wrong or misleading, in this case being the statements that “the designation of inventor has not yet been filed” and that “the designation for inventor does not meet the requirements laid down in Article 81 and Rule 19 EPC”.

3.20 It is entirely reasonable to assume that a person not versed in EPO procedures would have taken these statements at face value, including that the requirements “laid down” in Article 81 and Rule 19 EPC have not been met because “the designation of inventor has not been filed” or that a decision had already been formally reached that the designation of inventor does not meet the requirements laid down in Article 81 and Rule 19 EPC. In the former case at least, this could deny an actual inventor the information as to the designated inventor that would have enabled that actual inventor to challenge the inventorship of that application.

3.21 Article 128(4) EPC, referred to by the Receiving Section, is not a substitute for the information set out in the published application or for the duties of the Receiving Section including *inter alia* those set out in Rule 20 EPC.

3.22 With regard to the paragraphs of the Receiving Section’s summary of the relevant facts and submissions not specifically referred to above, the applicant’s further submissions below are relevant.

SECTION 3 – REMARKS ON THE REASONS FOR THE DECISION

4) Indication of the inventor in the designation of inventor

Preliminary Observations

4.1 In paragraphs 19, 34 and 36 to 39 of its reasoned decision, the Receiving Section sought to make a distinction between a formal requirement of the EPC, namely that of designating an inventor, and a substantive requirement to patentability. The Receiving Section was compelled to do this because there is no provision in the EPC that gives it the power to refuse an application on the substantive ground that patents will not be granted for inventions made by an AI system. In fact, any such policy would be contrary to the express statements to the contrary in the *Travaux Préparatoires*, at BR/169 e/72 ett/AV/prk, at pages 16 and 17:

“[The previous] proposals were not supported by other organisations (ICC, CEIF, CNIPA, COPRICE and UNICE) which, generally speaking, considered that it would not be desirable to make the mention of the inventor a substantial condition for the grant of patents, since no such condition was laid down in the Strasbourg Convention”

and also at BR/168 e/72 oyd/KM/gc, page 10, paragraph 28, in connection with the exclusions to patentability:

“On the other hand, other delegations thought it was inappropriate to insert a fundamental subject such as that of patentability in the Implementing Regulations which were subordinate to the Convention.”

4.2 It is of course correct that the designation of inventor is a formal matter and not a substantive matter, as confirmed, should it be necessary to seek reference, in the EPC itself (Article 164) and repeatedly by the Boards of Appeal, for instance in J7/07, T401/88 and T556/95.

4.3 However, the actual basis of the Receiving Section’s decision to refuse the designation of inventor was not based on formal procedure but was based on substantive law. While the applicant’s substantive and detailed submissions in connection with paragraphs 22 to 33 are set out below, in summary the Receiving Section based its decision on the substantive point that the EPC allegedly does not permit and was not intended to permit the patenting of inventions by any inventor other than a human inventor, which makes inventorship a substantive condition for the granting of a patent by the EPO.

4.4 In paragraph 34, the Receiving Section sought explicitly to distance its position from the “substantive patentability requirements” and proceeded, in paragraph 36, to refer to the requirements in Articles 52 to 57 EPC. That argument was incorrect because the point is that inventorship is not a substantive condition for the granting of a patent, quite separate from the requirements of Articles 52 to 57.

4.5 Notwithstanding the arguments in paragraphs 34 to 36 of the reasoned decision, the Receiving Section seems to acknowledge a fundamental contradiction in its findings, in the apparent suggestion in paragraph 39 that an applicant could name a natural person as inventor, thereby satisfying the formal procedure, upon which:

“The EPO does not verify the origin of the subject-matter claimed in a patent application ... it is for the public, including an inventor omitted from the designation, to challenge the incorrect designation”.

4.6 Aside from the errors in law in this reasoning, dealt with below, the contradiction in this position is evident.

4.7 The argument seems to be that on the one hand the designation of inventor is a matter of formal procedure and on the other hand that if the actual inventor does not suit the presumption in the EPC that the inventor is a natural person, the applicant can name a natural person as the inventor even if that natural person is not in fact an inventor, which the EPO

will not challenge on the basis that the applicant will have named a natural person thereby meeting the “formal requirement” and that by reason of the provisions of Rule 19(2) EPC the EPO is not responsible for verifying its accuracy.

4.8 This is not and cannot be right in law, either to the letter of the law or in principle. Article 81 and Rule 19 EPC make it mandatory for the applicant to designate the inventor, and it is clear this must be the actual deviser of the invention. Naming a natural person who is not an inventor would be a direct breach of these provisions and also of the very principle of naming the inventor.

4.9 Detailed submissions with regard to paragraphs 34 to 39 are made below in paragraphs 17 to 19.

5) Paragraphs 20 to 33 of the Decision of the Receiving Section

Preliminary

5.1 The Receiving Section referred to several sources in support of its findings in these paragraphs of its decision. Detailed submissions on the sources relied upon by the Receiving Section and more comprehensively are made in the Annex to the applicant’s Grounds of Appeal.

5.2 As the information in the Annex demonstrates, the position adopted by the Receiving Section is not supported by the sources it relied upon. Put succinctly, no prohibition has been set out in patent laws or in any debates leading to these laws against the patenting of inventions conceived autonomously by AI systems. The Receiving Section in fact seems to acknowledge this in its suggestion that an applicant could name a natural person in place of an AI system simply to get around the alleged obstacle of the formal requirement of naming an inventor

5.3 It must also be borne in mind that the legal provisions regarding the naming of an inventor in a patent or patent application are framed to take the responsibility of ensuring the naming of the correct inventor (actual deviser of the invention) and for determining entitlement away from Patent Offices and to put it in the hands of the applicant and the truly entitled persons (actual inventor and person entitled to the rights).

5.4 This is codified in the EPC in Rule 19(2), Rule 21(1), Article 60(1) and the Protocol on Recognition.

5.5 National patent laws are consistent with the EPC in this regard.

5.6 The arguments of the Receiving Section relating to naming of an inventor, moral rights of an inventor and ownership of an invention are as a consequence based not upon

requirements of patent law *per se*, specifically the EPC, but on other legal provisions of which patent laws are subordinate.

5.7 That is, there is an inherent contradiction in the position of the Receiving Section in seeking to limit who can be named as an inventor on a European patent application and the fact that patent law delegates the substantive determination of inventorship and ownership to other laws and provisions, not only of the EPC contracting States but of any other jurisdiction in the world, as well as delegating the responsibility for invoking a procedure to make such a determination away from the Patent Offices to the entitled person.

5.8 Furthermore, while the Receiving Section sought to categorise its objection to the naming of DABUS as the designated inventor as a formal requirement, the basis for the Receiving Section's objection is nothing more than a substantive objection that patents should only be granted for inventions conceived by a human. The entire basis of the Receiving Section's finding is one of substance and not one of procedure.

5.9 The Receiving Section relies in paragraphs 26, 27 and 30 to 33 on the question of the rights of an inventor, concluding that the inventor must have rights in law in order to be an inventor in accordance with patent law. That is, however, wrong.

5.10 Inventorship is a matter of fact and not a right. An inventor may have rights, as provided for in law, but those rights only ensue from the fact of being an inventor. If a person is not an inventor, that person does not any have rights whatsoever in relation to the provisions for inventors in patent law. If the point made in paragraph 39 of the reasoned decision of the Receiving Section is that an applicant could name a natural person who is not an inventor supposedly to meet the alleged formal requirements of Rule 19, this is contrary to the very rights the Receiving Section appears to seek to uphold.

5.11 This is supported by *Yeda Research and Development Company Limited v Rhone-Poulenc Rorer International Holdings Inc and others (Yeda Research v Rhone-Poulenc)* ([2007] UKHL 43), paragraph 19, in which Lord Hoffmann said that in his opinion:

“the first step in any dispute over entitlement must be to decide who was the inventor or inventors of the claimed invention. Only when that question has been decided can one consider whether someone else may be entitled [to the rights in the invention]”

5.12 In paragraph 20, when explaining that the inventor is defined in section 7(3) as “the actual deviser of the invention” and that the word “actual” denotes a contrast with a deemed or pretended deviser of the invention, Lord Hoffmann quoted the finding of Laddie J in *University of Southampton's Applications* [2005] RPC 220, 234, that this means the *natural* person who “came up with the inventive concept”. However, Lord Hoffmann was not making any distinction between inventions made by natural persons and inventions made by AI systems. The issue at hand was who was the actual deviser of the invention and it is

wrong to seek to extrapolate from Lord Hoffmann's judgement a legal principle that was not the subject of or debated in *Yeda Research v Rhone-Poulenc*. For the record, Laddie J in *University of Southampton's Applications* stated "it is necessary to identify who came up with the inventive concept or concepts". Laddie J did not refer to the inventor being a "natural person".

5.13 At paragraph 21 Lord Hoffmann stated that:

"There is no justification, in a dispute over who was the inventor, to import questions of whether one claimant has some personal cause of action against the other."

5.14 The applicant submits the Receiving Section has fallen specifically in this trap when reaching its decision to refuse to allow DABUS to be designated as the actual inventor. Specifically, the Receiving Section has imported questions of the right of an inventor to be named or to own the invention, that is the right of a personal cause of action, into the determination of who is the inventor. That is not justified or correct in law.

REMARKS ON THE SPECIFIC POINTS MADE IN THE REASONED DECISION

6) Paragraph 22 of the Reasoned Decision

6.1 The Receiving Section makes a number of errors in its reasoning in this paragraph.

6.2 First, whether or not a name provides any rights is irrelevant in the identification of the actual deviser of the invention, which is a matter of fact.

6.3 Similarly, whether or not a person may have a right of protection of their name is irrelevant in the context of identifying the true inventor.

6.4 Furthermore, the Receiving Section cannot on the one hand override the express wording of Rule 19(1) EPC to permit the identification of only one name for an inventor (for instance a mononymous person) and on the other seek to apply Rule 19(1) not just strictly but beyond what is stated in the Rule in seeking to justify raising a substantive objection to the nature of the inventor not otherwise provided for in the EPC.

6.5 Specifically, the Receiving Section seeks to argue in paragraph 22 that a name as referred to in Rule 19 EPC must be of a nature that it enables a natural person to exercise their rights and form part of their personality. It seeks to support that argument by reference to laws in Germany, France, Italy and the Republic of Lithuania relating to the rights of a

person in relation to their name. The Receiving Section also refers to EU Regulation 2016/679 on the protection of natural persons with regard to the processing of personal data.

6.6 However, none of this is relevant to the issue of inventorship in law and the Receiving Section is wrong to suggest that it might have such a bearing. Inventorship is a matter of fact relating to the contribution to an invention. Whether or not a natural person may or may not have other rights in relation to their name is immaterial to the issue of inventorship. The Receiving Section's reference to data protection shows just how tenuous its argument is from the issue of inventorship and identifying the actual inventor.

6.7 The naming of the inventor, that is the designation of the actual deviser of the invention, is a substantive and mandatory provision of the EPC, by Article 81. The implementing Regulations are and must be subordinate to these, if for no other reason than as provided for in Article 164(2) EPC. The Implementing Regulations, particularly the format of the designation of the inventor set out in Rule 19(1), which the Receiving Section seems to accept cannot be applied literally as it would otherwise deny mononymous people the right to be named as inventors, cannot override the fundamental requirement of identifying the actual inventor(s).

6.8 The argument put forward by the Receiving Section strays far beyond the provisions of patent law, evidenced by the fact that none of the laws or principles to which it seeks to rely has anything to do with patent law or the issue of identifying an inventor.

6.9 The fact that a natural person who may be an inventor may also have other rights in law is irrelevant and serves only to demonstrate that the decision of the Receiving Section is based on making the nature of the inventor, that is inventorship, a substantive condition for the granting of a patent.

7) Paragraph 23 of the Reasoned Decision

7.1 The statement by the Receiving Section that the EPC provides only for natural persons, legal persons and bodies equivalent to legal persons acting in certain capacities and that the EPC does not provide for non-persons being applicant, inventor or having any other role in the patent grant proceedings again strays beyond the issue in consideration and is also not correct. It is also an unreasonable generalisation because Article 56 EPC has long been accepted as encompassing in connection with the concept of obviousness a legal fiction, that is the "person skilled in the art".

7.2 While the EPC does not explicitly state that patents should be granted to inventions made by AI systems, it equally does not exclude the patenting of inventions made by AI systems. To the contrary, the EPO has agreed that inventions, including AI inventions, which meet the patentability criteria are eligible to be patented (IP5 Expert Round Table conclusions, discussed in section 11.1 of the Annex to these Grounds of Appeal).

7.3 The mechanism that appears to be suggested by the Receiving Section (paragraphs 37 to 39 of the reasoned decision) to overcome this conflict between the EPC and the Implementing Regulations is to name a natural person even if that person is not an actual inventor. Doing so is not right in law and neither would be any suggestion to that effect. This point is addressed in further detail in paragraph 19 below.

7.4 The Receiving Section is also wrong in stating that: “in the context of inventorship reference is made only to natural persons”. Neither the EPC nor its Implementing Regulations refers to a “natural person” in connection with the inventor.

7.5 Articles 60 and 62 EPC deal with the rights of an inventor, which, as explained above, can only be once inventorship has been established. A natural person has no rights if that person is not an inventor. Notwithstanding this, there is no conflict with these Articles if the inventor has because of some other rule of law no rights to the invention, as provided for example in the UK Patents Act 1977 (Section 7(2)(b)).

7.6 Rule 19 is not limited only to a natural person. Rule 19(3) does not confer any right in law as paragraph 4 of Rule 19 denies all rights to the inventor and applicant in relation to paragraph 3.

7.7 While Rule 21 requires the consent of a wrongly designated inventor, that is the removal of an inventor incorrectly named, this does not *per se* set a requirement in law that the inventor must be legally capable of giving such consent or that the inventor must be a natural person. Furthermore, the Receiving Section has provided no evidence that an AI system would not be capable of assessing the disclosure in a patent application with what it has created and provide an indication as to whether it has made or contributed to that disclosure and in what manner. Given how sophisticated AI systems are reported as already being, the Receiving Section should not have come to such a conclusion without providing supporting evidence.

7.8 Moreover, the EPC provides no sanctions against the applicant for the content of the designation of inventor as the jurisdiction for these is left to the national laws of the contracting states. This principle was also explained repeatedly by the President of the EPO in the *Travaux Préparatoires*, for instance at IV/4860/61-F pages 18 and 64, in particular:

“Le Président précise que dans la solution de la désignation facultative de l’inventeur, le droit européen ne peut prévoir de sanctions. Dans cette hypothèse, l’Office européen ne s’occupe pas de la désignation étant qu’elle est réglée exclusivement par les législations nationales. Toutefois, l’Office européen aura à tenir compte des décisions prises par les tribunaux nationaux desquelles il résulte l’obligation de désigner telle personne en tant qu’inventeur.”

7.9 While an AI system might not give its consent, this does not preclude either the application of Rule 21 EPC or the naming of an AI system in the first place.

7.10 One must also not ignore the fact that an applicant can be expected to be very cautious in naming an AI system as an inventor and indeed it is likely that an applicant is going to be much more cautious than in the case of naming human inventors.

7.11 It is of course correct that during the drafting of the EPC, as set out in the *Travaux Préparatoires*, the focus was on inventors who were natural persons. The applicant submits this focus occurred for two primary reasons: 1) to ensure that the employer, for example, should not name itself as the inventor but that the true inventor should be rightfully named, and 2) the drafting of the EPC took place mainly in the 1960s, at a time when artificial intelligence was not a reality or even contemplated to be. That focus was based solely on an *assumption* that the inventor would be a natural person at the time of drafting the EPC.

7.12 Notwithstanding this, a conscious decision was made:

- a) not to make inventorship a condition for patentability,
- b) to set the provisions for naming the inventor into the Implementing Regulations rather than the Convention itself, and
- c) to delegate questions on inventorship to the person or persons entitled to be named or to own the invention, that is to take it out of the hands of the EPO (consistent with national laws).

8) Paragraph 24 of the Reasoned Decision

8.1 The observations made above in connection with Paragraph 23 of the reasoned decision apply equally to this paragraph of the decision.

8.2 In the last sentence, the Receiving Section made reference to the possibility of recognising legal persons as inventors having been discussed but not included in a corresponding rule of the final draft. The Receiving Section concluded that this confirms the legislators' understanding of the inventor as a natural person.

8.3 However, the fact that the legislators understood at the time that the inventor would be a natural person does not equate with setting a prohibition in law to the patenting of inventions made by an AI system and indeed no such prohibition exists. This has been accepted by the EPO in the IP5 Expert Round Table conclusions (dealt with in Section 11.1 of the Annex to these Grounds of Appeal), as well as by Dr Shemtov in his statement at page 24 of his study for the EPO. This also seems to be accepted by the Receiving Section when it seeks to categorise the issue of inventorship as a formal requirement and not a substantive requirement of patentability (paragraphs 19, 34 36, 37 and 39 of its reasoned decision), despite the fact that the reasons the Receiving Section relies upon in its decision are based upon substantive matters of law and not procedure.

8.4 Notwithstanding the above, paragraph 24 of the reasoned decision does not adequately reflect what was discussed and determined in the *Travaux Préparatoires*. Reference is made to section 3 of the Annex to the Grounds of Appeal, which sets out more completely what was the discussed and determined at the time of drafting the EPC.

9) Paragraph 25 of the Reasoned Decision

9.1 In paragraph 25, the Receiving Section leaps from the position it stated in paragraph 24, that there was an “understanding” of the inventor as a natural person, to stating that it is a “requirement” that the inventor is a natural person. However, the Receiving Section neither explains nor justifies how it jumps to this conclusion. The Receiving Section states that the “requirement” is “in line with the intention of the Munich Diplomatic Conference to give inventors a clear and strong legal position”. However, this is not supported by the Munich Diplomatic Conference or elsewhere in the *Travaux Préparatoires* or in national or international laws.

9.2 First, a requirement in law, in this case a condition for patentability, cannot be held to exist solely because it is “in line with an [the] intention” but needs to be set out in statute. It is wrong to impose a requirement in law on the basis of an alleged intention. Moreover, the conclusion reached by the Receiving Section is inconsistent with the very position set out in the *Travaux Préparatoires* [BR/169 e/72 ett/AV/prk, at pages 16 and 17; and BR/168 e/72 oyd/KM/gc, page 10, paragraph 28] that the mention of the inventor should not be a substantive condition for the grant of patents, and also the position taken by the EPO in the IP5 Expert Round Table conclusion.

9.3 Section 4 of the Annex to these Grounds of Appeal reviews in detail the references the Receiving Section relied upon in this paragraph of its decision, listed in footnote 7 of page 6 of the decision.

9.4 As the Annex shows, none of the references relied upon support the contention by the Receiving Section that there is a “requirement that the inventor be a natural person”. The applicant submits that these sources cannot even be said to have assumed that the inventor would only be a natural person, as the references focus of the rights of a natural person who is an inventor and not on how an invention may have come about.

10) Paragraph 26 of the Reasoned Decision

10.1 The comments made by the Receiving Section in this paragraph cannot be said to be conclusive of a requirement that the inventor be a natural person.

10.2 Article 62 confers on the inventor the right to be mentioned as such before the European Patent Office. The Article does not restrict this right to a natural person but to the inventor, that is, the actual deviser of the invention. There is no reason to conclude that this article should be deemed not to cover also an inventor that happens to be an AI system.

10.3 While the underlying reason for the provision of Article 62 EPC might have been the morals rights of an inventor, which an AI system does not possess, that does not qualify or limit the provisions of Article 62. Furthermore, Article 62 applies specifically to the “inventor”, the actual deviser of the invention. It does not and cannot apply to a natural person who is not an inventor.

10.4 Article 81 EPC is of primary importance in conjunction with Rule 20, as the mention of the inventor informs the public of who has been designated as the inventor. It is from the mention and publication of the inventor that an inventor not named or a person entitled to the rights in the invention obtains the information of the wrong designation and can challenge this, in the case of the EPO via a national court. Article 81 and Rule 20 EPC are of such fundamental importance that they set out a mandatory requirement on the applicant to designate the inventor and equally a mandatory requirement on the EPO to include mention of the designated inventor in the published application and patent. Neither the applicant nor the EPO has any right to fail or refuse to meet either of these requirements. Furthermore, neither of these requirements is qualified by the inventor having to be a natural person. It is the “inventor” that must be designated and mentioned, no one else in the true inventor’s place. In the present case, the applicant has done just that: he has designated the inventor in accordance with the requirements of Article 81 EPC. By contrast, the Receiving Section has failed to do so in breach of the mandatory requirement of Rule 20 EPC.

10.5 Rule 19(3) EPC, while setting a requirement on the EPO to communicate to the designated inventor the information in the associated patent application, confers no rights on the inventor. Rule 19(4) EPC specifically denies the applicant and the inventor rights in connection with paragraph 3 of the Rule, who may invoke neither the omission of the communication under paragraph 3 nor any errors contained therein. Rule 19(3) therefore establishes a requirement on the EPO and not any right of the inventor or applicant. Notwithstanding this, while the underlying assumption of Rule 19 may be that the inventor would be a natural person, this Rule does not and cannot be said to set a legal requirement that the inventor be a natural person.

10.6 Rule 20(1) EPC comprises two different provisions.

10.7 The first, as already addressed, is the mandatory requirement on the EPO to mention the designated inventor in the published European patent application and the European patent specification.

10.8 The second is the right of the inventor to inform the European Patent Office in writing that he has waived his right to be mentioned. While it may be that an AI system would not

inform the EPO that it does not wish to be named, and also that without this provision of the EPC an AI system would have no such right, this is not and cannot be said to apply a restriction on the nature of the inventor. First, and as already addressed, this provision is a matter of procedure and not substantive law. Second, it does not set out an exclusion against AI inventors. Third, it does not apply to all natural persons as some, minors in Germany for instance, do not have the right to enter into such an agreement with then EPO. This point has been addressed by the applicant in its submission of 25 October 2019 in preparation for the oral proceedings before the Receiving Section, at page 8. Fourth, the Receiving Section has provided no evidence that an AI system would not be capable of assessing the disclosure in a patent application with what it has created and provide an indication as to whether it has made or contributed to that disclosure and in what manner. Given how sophisticated AI systems are reported as already being, the Receiving Section should not have come to such a conclusion without providing supporting evidence.

10.9 Furthermore, Rule 20(2) EPC overrides EPO authority via national law, specifically by a final decision determining that the applicant for or proprietor of a European patent is required to designate him as an inventor.

10.10 As a consequence, Rule 20(1) EPC does not and cannot set any legal restriction impossible by the EPO on the nature of the inventor.

10.11 The provisions of Article 60 have already been addressed herein in paragraphs 3.5, 3.14 and 5.4. The point made by the Receiving Section in this paragraph of its reasoned decision is in any event immaterial to whether or not the EPC prohibits the naming of an AI inventor or prohibits the patenting of inventions made by AI systems. The Receiving Section is in part correct that Article 60(1) safeguards the rights of an inventor and that an inventor may transfer these rights to a successor in title, and it is also correct that these provisions were drafted and focus upon the rights of a natural person. It is also correct that an AI system currently does not have any rights *per se* equivalent to those of a natural person outside any rights that are arguably provided for in the EPC or in the corresponding national laws of the contracting States.

10.12 However, as already addressed in these grounds of appeal, Article 60 is not an exhaustive provision on the rights to an invention, it is not the ultimate governing provision on the rights to an invention, nor does it exclude or even seek to exclude certain inventions (in the present case those derived from a certain inventor) from being patented.

10.13 National laws provide other mechanisms by which a third party can own the rights to an invention, which do not require any transfer of rights from the inventor or for the third party to be a “successor in title”. Reference can be made, as an example, to Section 7(2)(b) of the UK Patents Act 1977, which provides for title to an invention to vest with any person or persons who owns that invention, by virtue of any enactment or rule of law, or any foreign law or treaty or international convention.

10.14 The Protocol on Recognition of course overrides any restriction or limitation that may sought to be construed in Article 60 and it is not correct, therefore, to seek to rely on Article 60 to impose a general restriction on patentability at the EPO.

10.15 In this paragraph of the decision, the Receiving Section refers to a number of sources for support, identified in footnotes 8 and 9. These are addressed in detail in the Annex to these Grounds of Appeal, at sections 5 and 6. In summary, none of these references provides any authority for restricting patents to inventions made by natural persons, for prohibiting the naming of an AI system as an inventor, nor are these references an exhaustive account of the laws of the contracting states. It should be borne in mind also that the law of just one State is sufficient to trigger the provisions of the Protocol on Recognition applicable to EPO proceedings, confirmed also by Articles 8 and 9 of the Protocol.

11) Paragraph 27 of the Reasoned Decision

11.1 As already stated above, the position of the Receiving Section appears to be that inventorship is a right in law, in some way linked to the rights of a natural or legal person. Specifically, the Receiving Section relied upon the right to a legal personality, referring to the Study on European Civil Law Rules in Robotics, for the Policy Department for “Citizens’ Rights and Constitutional Affairs” and the Guidelines for Trustworthy AI of the High-Level Expert Group on Artificial Intelligence set up by the European Commission (both referred to in footnote 10), and Section 311(3) BGB, as well as Articles 52, 10, 155 of the Polish Civil Code (footnote 11).

11.2 The position on whether an AI system could or should be entitled to any rights in general law, such as equivalent rights to a natural or legal person, has and can have no bearing on whether an AI system can be an actual deviser of an invention. That is a matter of fact and not a right. Rights can ensue from the fact of being an inventor but not the other way around, which would be contrary to the fundamental principle of identifying and designating the inventor, that is the actual deviser of the invention.

11.3 Of course, there is ample merit in the conclusion whether an AI system or a machine is entitled to possess rights by virtue of not having a legal personality, but that question goes to whether an AI system or machine is entitled to any rights to the invention of which it is the actual deviser. It is not relevant to whether the AI system or machine is as a matter of fact the deviser of the invention.

11.4 The argument put forward by the Receiving Section, therefore, is not relevant to the question of inventorship *per se* but whether an AI system, being an inventor, has any rights. Unless and until laws are enacted that confer legal rights to an AI system, it is correct that AI systems will not have any rights to an invention which they conceive autonomously, be it rights of ownership, rights to be named on a patent or patent application, rights to

recompense and so on. However, the rights to an invention are a separate legal provision from inventorship.

11.5 In the present case, the applicant has abided by the very principle that the AI system, that is DABUS, is entitled to no rights in connection with the inventions it has conceived. DABUS is not named as the applicant, rather Mr Stephen Thaler is, as the deviser, owner and operator of DABUS, that is as the only natural or legal person having anything to do with DABUS.

11.6 It is equally immaterial to the question of DABUS being the actual deviser of the inventions disclosed in the two European applications the subject of these appeal proceedings, whether DABUS might or might not have the right to be named as the inventor, or the right in law to challenge ownership, for example.

11.7 As DABUS is the actual deviser of the inventions, Mr Stephen Thaler has correctly and entirely appropriately designated DABUS as the inventor, meeting fully the letter and the principle of the law in identifying the actual deviser of the invention. That designation is correct as a matter of fact, irrespective of whether DABUS would have the right in law to be so mentioned.

11.8 The position should be compared with the corresponding PCT application published as WO-2020/079499 (Attachment V), in which DABUS is correctly designated as the inventor and Mr Stephen Thaler is correctly identified as the applicant.

12) Paragraph 28 of the Reasoned Decision

12.1 The Receiving Section was correct in its finding that there is no case law from the EPO Boards of Appeal that has dealt with the question of whether an AI system can be designated as an inventor under the EPC. However, the references to the Legal Board of Appeal decisions J7/99 and J8/82 are not relevant to this issue because they were concerned with other issues unrelated to the nature or identity of the inventor. LBA decisions J7/99 and J8/82 are discussed in detail in the Annex to these Grounds of Appeal, at section 8.

13) Paragraph 29 of the Reasoned Decision

13.1 The Receiving Section was wrong to seek to conclude that the inventor is a natural person by “an internationally applicable standard”. There is no such standard and while it might have been assumed that an inventor would be a natural person, such as during the *Travaux Préparatoires* of the EPC, that does not equate to the establishment of a standard nor to a requirement in law.

13.2 Reference is made to paragraphs 9 of the Annex hereto, which details the points discussed and decided by the cases referred to in footnote 13. None of the cases referred to by the Receiving Section considered the issue of an invention made by an AI system, nor did they rule on the issue of designating an AI system as an inventor.

13.3 In summary, *University of Southampton's Applications* [2005] RPC 220, 234 confirmed UK patent law, namely that the inventor is whoever came up with the inventive concept or concepts, in other words the actual deviser of the invention, and no one else. DABUS is the actual deviser of the invention the subject of this application and its co-pending application EP18275174.3 and by the same principle only DABUS can and should be acknowledged as the inventor.

13.4 The UK House of Lords in *Yeda Research v Rhone-Poulenc* [2007] UKHL 43, specifically held that the first step in any dispute over entitlement must be to decide who was the inventor or inventors of the claimed invention. Only when that question has been decided can one consider whether someone else may be entitled to the rights in the invention. It also held that there is no justification, in a dispute over who was the inventor, to import questions of whether one claimant has some personal cause of action against the other. In other words, there is no “right” to inventorship, to the contrary, inventorship must be determined *a priori* without consideration of any rights that might ensue from inventorship.

13.5 *University of Utah v. Max-Planck-Gesellschaft zur Forderung der Wissenschaften e.V et al* (Fed. Cir. 2013) related to motions to dismiss a case on jurisdictional grounds and does not give any guidance on the issue of inventions made by AI systems. In the decision, the Court’s majority reasoning was based on inventorship being personal to the inventors, and that because “States cannot be inventors” any question of inventorship is not a “core sovereign interest”. This statement does not set any “international applicable standard” that an inventor must be natural person as suggested by the Receiving Section but, rather, goes to the core of the principle of inventorship that inventorship lies with the actual inventor not a third party, such as a State. The decision of the Federal Circuit Court is consistent with the principle that inventorship lies with the actual deviser of the invention.

13.6 The Receiving Section was also incorrect in suggesting that the EPO publication “Legal Aspects of Patenting Inventions Involving Artificial Intelligence (AI) Summary of Feedback by EPC Contracting States” reported such a *standard* by the majority of the EPC contracting states, for the reasons set out in paragraph 6 of the Annex to these Grounds of Appeal. Even had it been the case, which it is not, that the national laws of a majority of EPC contracting States did require the inventor to be a natural person (see section 6 of the Annex to these Grounds of Appeal), the fact that the summary concludes that three EPC member States do not have any such requirement can only lead to the conclusion that there is no standard of this nature. A standard is a universally accepted norm.

13.7 Furthermore, such a conclusion is not consistent with the laws of the of the EPC contracting States as summarised in section 6 of the Annex, or with the replies to the WIPO

consultation, summarised in section 7 of the Annex, or with the conclusion of the EPO following the IP5 Expert Round Table discussion (Section 11.1 of the Annex) or in the EPO sponsored study by Dr Noam Shemtov, namely that “Inventions involving AI activity that are not obvious to the person skilled in the art should continue to be patentable” (page 24).

13.8 If the position of the Receiving Section is that inventions made by AI systems should not be considered patentable, this is a conclusion that cannot be reached on the basis of the references it relied upon, current policy or the intention of the legislators of the EPC, as set out in paragraph 4.1 in these Grounds of Appeal and pages 2 to 4 of the applicant’s submission of 25 October 2019 in preparation for the oral proceedings before the Receiving Section. Furthermore, for the Receiving Section to decide upon which inventions should be permitted to be patented by the EPO goes beyond the remit and authority of the Receiving Section.

13.9 The Receiving Section’s reference to the Q244 AIPPI Report and Resolution of 7th June 2015 does not support the Receiving Section’s position because it did not relate to nor did it consider the question of inventions made autonomously by AI systems or machines. The meetings and Resolution were directed to inventorship issues of multinational inventions and whether and how national laws need to be harmonised to ensure consistency across the nations. This is irrelevant to the question of whether an AI system or machine that has autonomously conceived an invention should be designated as the inventor in a patent application or patent.

13.10 Notwithstanding, this, and as set out in some detail in section 10 of the Annex to these Grounds of Appeal, the AIPPI Resolution Q244 is not inconsistent with and can be applied to inventions made by AI systems or machines. The Receiving Section’s reference to some of the nation states reports (from Estonia, Germany, Finland and France) cannot be considered persuasive because: 1) this is not indicative of the position of all the states involved in the report, 2) it is inconsistent with Resolution Point 3 [set out in the Annex], and 3) in any event did not focus on or consider the issue of AI conceived inventions.

13.11 The Receiving Section also came to a wrong finding in connection with the IP5 Round Table discussion of October 2018 (dealt with in detail in section 11 of the Annex to these Grounds of Appeal), *inter alia* for the following reasons.

13.12 While all IP5 Patent Offices decided that the inventor must be a human being, there is to date no case law to support this finding, which is a pre-emptive policy statement prior to the issue being considered or determined in law. The IP5 group also held that the issue is a formal requirement and not a substantive requirement in law and that the laws, in the case of the EPC the national law(s) of the relevant State(s), are poorly equipped with determining whether an invention has been made by a human or a machine.

13.13 The IP5 group, however, held that inventions made autonomously by an AI system that meet the criteria for patentability are eligible for patent protection.

13.14 The conclusions drawn by the IP5 group establish the contradictions and shortcomings in the current patent law, namely that all inventions that meet the requirements for patentability, including AI generated inventions, are eligible for patent protection, yet as a formal requirement the AI system should not be named as the inventor (with the consequential problems that patent law is ill equipped to resolve the issue of a non-inventor being designated, presumably to try to circumvent the alleged restriction in the formal requirement).

13.15 The position of the IP5 group cannot be said to be conclusive or a workable solution within current patent law and it seems this is acknowledged. In the circumstances, the Receiving Section was wrong to place the weight it did in connection with the present cases. Further submissions are made in this regard in Section 4 of these Grounds of Appeal.

13.16 In this paragraph of the reasoned decision, the Receiving Section also referred to “the laws of some of the EPC contracting states explicitly [defining] the inventor as being the natural person who creates an invention. The national laws of “some” EPC contracting states cannot be determinative of a policy representative of all or a majority of the EPC contracting states, or of an “internationally applicable standard”, leaving aside the fact that the Receiving Section only cited the national laws of 2 of the 38 EPC member states (namely Lithuania and Estonia). With reference to the summary of the national laws of all 38 EPC contracting states, in section 6 of the Annex to the Grounds of Appeal, it can be seen that a large number of contracting states to the EPC do not state in their national patent laws that the inventor must be a natural person, despite the fact that many of the national laws do refer to a natural person in connection with other provisions of the law. The Receiving Section’s reliance on just two national laws was incorrect.

13.17 In the last sentence of paragraph 29 of its decision, the Receiving Section held that: “No national law has been determined which would recognise a thing, in particular an AI system or a machine, as an inventor”. This is not justified. There is no need for a law to explicitly allow a circumstance when it is implicitly allowed, and the onus should not lie with the applicant to identify such recognition but for the European Patent Office to establish the express prohibition. Moreover, the conclusion reached by the Receiving Section, the applicant submits, misses the point. There is a growing groundswell of opinion, often from people skilled in the AI arts and from patent experts and authorities, as well as governments, that AI systems are generating or capable of generating patentable subject matter and that the patent system must allow these inventions to be patented (the IP5 Expert Round Table conclusions (section 11.1 of the Annex support this). The fact of an AI system making patentable inventions autonomously has also been accepted in the case of the two DABUS inventions, both of which have been deemed to meet the requirements of patentability by the UKIPO (see Attachments VI and VII) after consideration of all the prior art known at the time, including that cited in the corresponding EPO search reports. Therefore, as a matter of fact, AI systems are making inventions, and it is not a matter of a specific law recognising it.

13.18 Notwithstanding this, patent laws are not incompatible with allowing the patenting of inventions made by AI systems and at best the only objection that could be raised is one of formality, not of substantive patent law. Reference should be made *inter alia* to: the opinion of Dr Noam Shemtov in his study commissioned by the EPO, the conclusions of the IP5 conference, addressed in detail in paragraph 11 of the Annex hereto and also in paragraphs 13.11 to 13.14 of these Grounds of Appeal, to the UK House of Lords decision in *Yeda Research v Rhone-Poulenc*, addressed in detail in paragraph 9.2 of the Annex hereto and also in paragraphs 5.11 to 5.14 of these Grounds of Appeal, to the comments particularly by the Submission from the Association of Swiss and European Patent Attorneys in Free Practice to the WIPO consultation, addressed in detail in paragraph 7.4 of the Annex hereto, among others.

13.19 There was no justification in law or in practice for the Receiving Section's conclusion that there exists "an internationally applicable standard" that the inventor must be a natural person. Leaving aside the fact that the Receiving Section by its own admission accepts that some countries at least do not abide by any such "standard" and the fact that the Receiving Section did not refer to all of the potential national legal provisions that could be said to fall within the "excluded" countries it indicated. At best the evidence the Receiving Section relied upon points to a presumption in patent laws and in case law that the inventor would be a natural person with legal personality. However, that falls very short of a "standard" let alone "an internationally applicable standard". It is equally wrong to suggest or determine that as a whole current patent laws prohibit the naming of an AI system as the inventor in a patent application or patent. While a minority of national laws of the EPC contracting states to the EPC specifically refer to the inventor being a natural person, this is by no means indicative of an internationally applicable standard. If there is an internationally accepted standard, and this is indisputable, it is that patent laws require and expect the correct inventor to be designated, that is the actual deviser of the invention, and not some other person merely for the sake of satisfying an alleged formal requirement of the patenting procedure. So doing would undermine the very principle of identifying the actual inventor(s), which currently no patent law and currently no case law has ever contemplated would be acceptable.

14) Paragraph 30 of the Reasoned Decision

14.1 The Receiving Section was wrong in what it states in this paragraph, if this is suggestive that the correction the applicant made to the EPO online Form 1002 for designating the inventor in some way was intended to alter the applicant's indication as to how it derives the rights to the invention. In its first submission of 23 July 2019 the applicant filed with the EPO online form an addendum that explained why DABUS should be designated as the inventor and also how the applicant Mr Stephen Thaler derives the rights to the DABUS inventions. The EPC, specifically by Article 81 and Rule 19, does not require the use of a specific EPO form but the use of a separate document, which is precisely what the applicant did.

14.2 The issue the applicant's professional representative was faced with is the limitation of online Form 1002, which only permits one of predetermined options to be selected, that is employment or successor in title, one of which must be selected for the form to be accepted for filing. Moreover, while the two options from which the applicant must select may accord with the provisions Article 60 EPC, the matter of ownership is determined by national law, particularly having regard to the provisions of Article 60 and also the Protocol on Recognition. By way of a single example only, Section 7 of the UK Patents Act is broader than Article 60 EPC yet EPO Form 1002 does not make provision for this.

14.3 The applicant cannot be reprimanded in connection with a limitation in the EPO online system any more than the EPO can be reprimanded for having included incorrect information in the published application (see Paragraph 16 of the reasoned decision).

15) Paragraph 31 of the Reasoned Decision

15.1 The Receiving Section's remarks in this paragraph of its decision follow from paragraph 30. They are, however, incorrect in ignoring the statement the applicant provided with the first Form 1002, which is fundamental to the applicant's designation of the inventor as filed and was clearly intended to override any box the applicant was forced to select when completing the online EPO form.

15.2 The observations made by the Receiving Section in this paragraph of its reasoned decision are therefore irrelevant to the issues of this case.

16) Paragraph 32 of the Reasoned Decision

16.1 The Receiving Section's comments in this paragraph are taken to refer to the second EPO Form 1002 the applicant filed on 2 August 2019. It is abundantly clear from the applicant's submissions that the issue lay not with applicant not knowing how it derives the rights to the DABUS inventions but by the limitations in the EPO Form 1002.

16.2 The observations by the Receiving Section are therefore irrelevant to the question as to how Mr Thaler derives the rights to the DABUS inventions to the extent that the Receiving Section seeks to limit that derivation to a contract of employment or to DABUS having to own the rights in the first place.

16.3 The Receiving Section was correct, however, in its remark that the owner of an AI system may, in accordance with national law, just as the owner of any machine, may own the output of that machine. However, there is no justification in seeking to suggest that the issue of ownership in some way changes if the output is inventive or not inventive. Mr Thaler owns the rights to the DABUS inventions as the designer, creator, owner and user of DABUS. There is no other entity involved and since DABUS is not entitled in law to own

property or to have any other rights, being a machine, Mr Thaler owns the entire rights in DABUS including what DABUS outputs, whether that output is inventive or not. There can be no question, and the Receiving Section seems to accept this, that Mr Thaler owns the rights in any output of DABUS that is not inventive and as a direct consequence Mr Thaler also owns any DABUS output that is inventive. The law is no different, save for the fact that patent laws provide specific protections for the ownership of inventions, not an entirely new and separate law on property rights. This is provided for, for example, in Section 7 of the UK Patents Act 1977.

17) Paragraph 34 of the Reasoned Decision

17.1 It is not clear why the Receiving Section sought in this paragraph to make a distinction between the formal requirements of the designation of inventor and the substantive requirements for patentability, unless this was to seek to justify its authority to reach the decision it did.

17.2 In its decision, the Receiving Section has gone much further than assessing the formal requirements of designating an inventor. In particular, the Receiving Section has decided upon issues of an alleged requirement in law that only natural inventors can be named in a patent application (paragraphs 25 and 28 of the reasoned decision), the rights conferred to an inventor (paragraph 26 of the reasoned decision), the fact that AI systems or machines allegedly have no rights in law (paragraphs 27 and 31 of the reasoned decision), arguments involving an alleged “internationally applicable standard” limiting patent applications to inventors who are natural persons (paragraph 29 of the reasoned decision), and issues of ownership (paragraphs 30 and 32 of the reasoned decision).

17.3 The Receiving Section strayed into matters of substantive patent law and fundamental legal principles that go far beyond questions of formal requirements of a patent application. All of these questions fall outside the jurisdiction of the Receiving Section, confirmed by the LBA in J18/84, and should not have been decided by the Receiving Section but by the Legal Division of the EPO.

18) Paragraphs 35 and 36 of the Reasoned Decision

18.1 The comments of the Receiving Section in these paragraphs of its decision are not correct either in law or in fact, leaving aside that they were not relevant to the issue in consideration.

18.2 Specifically, the Receiving Section sought to separate the question of who is the inventor from questions of patentability, using as a basis that the:

“assessment of the formal requirement of the designation of the inventor takes place prior to and independently from the substantive examination and makes no statement as to whether the subject matter of that application meets the requirement of Articles 52-57 EPC. Conversely, from the fact that the subject-matter may meet the requirements of Articles 52-57 EPC no information can be inferred as to whether the application meets the formal requirements laid down in the EPC.”

18.3 First, it was wrong of the Receiving Section to assume that the assessment of the designation of the inventor occurs prior to substantive examination on patentability. Whether or not the applicant has filed a request for substantive examination, an assessment of patentability is officially made at the search stage and as a matter of fact in the present case occurred before the designation of the inventor. In the parallel UK patent application, substantive examination was well under way by the time the inventor was designated.

18.4 Secondly, while a purely formal examination of the designation of inventor occurs separately from any assessment of patentability, the issues the Receiving Section decided upon go much further than a solely formal assessment of the designation of the inventor, and specifically into questions of whether patent law allows an AI system to be an inventor on a patent application (leaving aside any alleged rights of the inventor and applicant).

18.5 In refusing to allow the AI system to be designated as the actual inventor, DABUS in this case, the Receiving Section is in fact determining the right of an inventor to be designated, which is much more than a formal issue. Moreover, in refusing to accept the principle that patent law is based on the existence of an inventor for a patentable invention, the Receiving Section has in its decision contradicted fundamental principles of patent law, which as well as being incorrect should not have been decided as a formal issue but as a matter for the Legal Division.

18.6 The ultimate result of the Receiving Section refusing to permit an AI system to be designated as an inventor is to deny inventorship and to set a substantive requirement to the grant of patents.

19) Paragraphs 37 to 39 of the Reasoned Decision

19.1 Paragraphs 37 to 39 demonstrate the conflict in the Receiving Section’s reasonings in connection with attempting to use the procedural provisions of the Implementing Regulations to impose a substantive condition for the grant of patents particularly having regard to the naming of the inventor. On the one hand, the Receiving Section seeks to argue that an AI system cannot be named as an inventor because an AI system is not a natural person, while on the other hand the Receiving Section argues that if a non-inventor is designated as an inventor there is nothing the EPO can do about it because the EPC does not give it the authority to do so.

19.2 It should also be borne in mind that by Rule 19(2) and consistent with the argument by the Receiving Section in paragraph 39 (leaving aside the error in law in that paragraph), had the applicant merely stated the name of the designated inventor, the Receiving Section would not have been expected to verify the accuracy of the designation of the inventor and would have been expected to have raised no objection. It is entirely conceivable that the Receiving Section would have allowed the designation of an AI system as inventor. The Receiving Section has raised an objection in this case because the applicant has been entirely honest and open. Had Mr Thaler not included the explanatory addendum to the designation of inventor form, as another applicant might be tempted to do, it is conceivable if not probable that the Receiving Section would have raised no objection.

19.3 The EPC is of course not an isolated patent statute, particularly in relation to the issue of inventorship. The position is the same in national patent laws. Thus, while there may be differences in wording and provisions relating to the naming of the inventor, it is important for the EPO to acknowledge and be consistent with these.

19.4 The applicant has previously referred to Section 7 of the UK Patents Act 1977, specifically paragraph 3 thereof, which states:

“In this Act “inventor” in relation to an invention means *the actual deviser of the invention* and “joint inventor” shall be construed accordingly.”
[*Emphasis added*]

19.5 The applicant also made reference to the law in the United States [18 U.S.C. § 1001], which makes it an offence to name as an inventor a person who is not an actual inventor punishable by a fine or imprisonment or both for making a false declaration.

19.6 It would be inconsistent and wrong if a formal procedure in one patent jurisdiction, the EPO in this instance, were to be applied in such a manner as to create a substantial formal disparity between patents and patent applications, in this case the naming of a non-inventor in the EPO and a different inventor in other jurisdictions, such as the UK or the US.

20) Paragraphs 40 to 41 of the Reasoned Decision

20.1 As the Receiving Section has stated in these paragraphs of its reasoned decision, the Receiving Section took it upon itself to curtail the 16-month term prescribed by Rule 60(1) EPC for the applicant to designate the inventor.

20.2 The Receiving Section does not have the right to alter time periods of its own volition, it must abide by the law.

20.3 For the record, the applicant was not invited to file a designation of inventor naming a human as the inventor at the oral proceedings. The applicant was only asked whether he had any further requests, and was asked this before the Receiving Section indicated any opinion on the issues debated. After a period for deliberation, at which the applicant's representative was not present in accordance with standard procedure, the applicant's representative was simply asked whether the applicant had any further requests, to which the reply was none. The applicant's representative was given no indication that it was the intention of the Receiving Section to refuse the application prematurely.

SECTION 4 – CONCLUDING REMARKS

21.1 The position taken by the Receiving Section, addressed in length in these Grounds of Appeal, does not raise an objection in principle to the granting of patents for inventions made autonomously by AI systems. This is in line with the general consensus that such inventions should in principle be patentable, and is equally consistent with the position set out in the *Travaux Préparatoires*, that inventorship should not be a condition for the grant of patents under the EPC, the express conclusion of the IP5 Expert Round Table discussion (paragraph 6 of the report), and the EPO's "A study on inventorship in inventions involving AI activity" by Dr Shemtov (at page 24). As could be expected, there have been a few voices that have suggested otherwise, and these are addressed briefly below.

21.2 Considering first the objection on formal grounds, that is that while in principle an invention made autonomously by an AI system should be patentable, a patent application would be refused on the basis that an AI system cannot be designated as inventor. Leaving aside whether or not this position is supported in law, addressed elsewhere in these Grounds of Appeal, what must be considered are the ramifications of adopting such a policy or practice. As suggested by the Receiving Section in paragraph 39 of its decision, and correct in law, as the EPO has no jurisdiction to question the correctness of the designation of inventor, the practicality is that an applicant wishing to seek the patent protection that it is entitled to obtain would simply name a human as the inventor in place of the AI system, when that human has not contributed to the making of the invention. One might ask whether this may already have occurred and potentially how many times. Compelling an applicant to take such measures in order to satisfy an alleged formal requirement would undermine the very principle of designating and making public the identity of the actual deviser of the invention.

21.3 No Patent Office could reasonably adopt a policy or practice that is so fundamentally incorrect in law.

21.4 Doing so would also have the practical effect of a Patent Office turning its back on the problem given that the misleading designation could only be put right by a third party,

specifically the actual inventor or entity entitled to the rights to the invention. The Receiving Section has acknowledged this would be the case in paragraph 39 of its reasoned decision.

21.5 Forcing an applicant to mask identity of the actual inventor in such circumstances also risks denying a third party the opportunity of challenging inventorship, *inter alia*, because the misleading designation of inventor would fail to show the link any such a third party may require in order to establish its involvement with the making of the invention.

21.6 No patent statute, no legislator and no case law has contemplated such a policy or practice, as it is wrong.

21.7 To add to the fundamental difficulties with such a practice, Patent Offices must bear in mind the differences in patent laws and the effect of international conventions and treaties. Section 6 of the Annex to these Grounds of Appeal shows how varied the law is in connection with the designation of the inventor in the EPC contracting States alone, as are the provisions regarding the rights to an invention. There is no common standard.

22.1 Considering whether patents should be granted in principle for inventions conceived autonomously by AI systems, leaving aside the fact that such a policy would be contrary to the statements made in the course of the *Travaux Préparatoires* to the EPC (addressed elsewhere in these Grounds of Appeal, the conclusions of the IP5 Expert Group, Dr Shemtov and the overwhelming consensus, this would require not only an amendment of current patent laws but is mired in practical difficulties. An applicant wishing to protect a patentable advance made by an AI system could simply name a natural person as the inventor in order to avoid the exclusion. Given that a Patent Office would not have the jurisdiction to question the correctness of the designation of inventor, the issue of whether or not a patent should be granted for that invention would be left to third parties to raise by way of a challenge against the patent based upon inventorship. As an applicant or inventor is not required under current patent law to explain how the invention was arrived at, there is no mechanism in law currently to establish this apart from a challenge on inventorship instituted by a third party.

22.2 Such a policy would also undermine the very purpose of the patent system, that is to allow the protection of new technologies that meet the requirements of patentability and would fail to support innovation, and the industries and people engaged in these.

22.3 It would also require a fundamental change to the laws of patentability, not just, in the case of the EPO (Articles 52 to 57 EPC), but also of other treaties, including:

(i) Article 27 of TRIPS, specifically paragraph 1:

“1. Subject to the provisions of paragraphs 2 and 3, patents *shall* be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application.” [*Emphasis added*];

(ii) arguably paragraph 33 of the Patent Cooperation Treaty; and

(iii) abandonment or amendment of the Strasbourg Agreement (the Convention on the Unification of Certain Points of Substantive Law on Patents for Inventions) of 1963, specifically Article 1:

“In the Contracting States, patents *shall* be granted for any inventions which are susceptible of industrial application, which are new and which involve an inventive step. An invention which does not comply with these conditions shall not be the subject of a valid patent. A patent declared invalid because the invention does not comply with these conditions shall be considered invalid *ab initio*.” *[Emphasis added]*

22.4 It is also likely to contradict the provisions of the Paris Convention and the Patent Cooperation Treaty, which provide for correspondence at the national level of patent applications filed and prosecuted in accordance with their respective provisions. All it would take is one member State of one of such treaties to allow the patenting of inventions made by AI systems to cause significant legal and practical difficulties for other member States. Of course, as far as the EPO is concerned, the position is compounded by the provisions of the Protocol on Recognition, which, while not necessarily overriding any express statutory prohibition on the granting of patents for inventions made by AI systems, would create a regrettable and difficult imbalance in patent practice among the EPC member States and within the provisions of the EPC.

23.1 There has been some discussion as to whether an AI system can in fact invent based upon whether or not AI systems are sentient, and if not currently when they might be deemed to have become so. While that is a fascinating scientific topic, it is not relevant to patent law for the following reasons. No patent law requires or expects the inventor to explain how the invention was arrived at. The test for inventive step is based upon the understanding of a third party, specifically the “person skilled in the art” (Article 56 EPC). The invention could have been arrived at in a myriad of ways and it is irrelevant how it has been. By way of example only, the invention could have been arrived at by a moment of inspiration, trial and error, deduction, a series of purely logical steps requiring no sentient activity, with the assistance of other specialists including artificial intelligence. The method of making the invention is irrelevant, it being up to third parties to argue for inventive step, or lack thereof, completely ignorant of the way by which the inventor arrived at the invention.

23.2 An argument that an inventor must be sentient and as a result can only be a human being, leaving aside whether or not this is actually correct, is not provided for in law and would require a very significant amendment of existing laws and practice.

24.1 In both these scenarios, that is prohibiting the naming of an AI system as the actual inventor and prohibiting the patenting of inventions made by AI systems, a change in laws would be required, and a change far more fundamental than construing current laws to permit the naming of an AI system as the inventor. In the case of the laws on patentability, these are codified in internationally accepted standards set out in a number of international treaties and consistent in the national and regional patent laws. By contrast, there is no standardisation of the rules relating to the designation of the inventor, save for the fact that they are of a formal and not a substantive nature.

24.2 It is the case that the naming of an AI system as an inventor in a patent application will cause some procedural awkwardness with regard, for example, to notifying the inventor of the filing of the application. However, that is a matter of procedure and not a substantive matter of patentability or the right to obtain a patent. It is also accepted that other provisions, such as rights of the inventor, will have to be construed having regard to the fact that the inventor is an AI system and not someone with legal personality. However, that is a matter of construction of those provisions of patent law based upon existing legal principles and are not insurmountable. This must also be compared to the alternatives indicated above.

25.1 On the matter of the rights to the invention, given that an AI system has no rights to own property in law, having no legal personality, and that patent applications and patents are property rights, there must be a legal person entitled to such rights. Submissions have already been made with regard to the limitations of Article 60(1) EPC and how this is overridden by national law. In the case of the DABUS inventions, as already stated, given that Mr Stephen Thaler is the only person involved in DABUS, there can be no third party that can claim rights to the DABUS inventions. The position is clear. There may very well be cases which are less clear-cut, but such cases would not differ in any material way from any case involving an inventorship or ownership dispute, for which patent statutes and case law have provisions and ample experience.

25.2 There has been occasional mention, in connection with the issue of AI inventions, of the provision in UK copyright law introduced in the UK Copyright, Designs and Patents Act of 1988 relating to computer-generated works, that is Section 9(3), which specifies:

“§9(3) In the case of a literary, dramatic, musical or artistic work which is computer-generated, the author shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken.”

25.3 There has been no similar amendment to UK patent law even though the copyright provision was made decades ago and the applicant submits this is entirely reasonable. There is a wide gap between the concept of inventorship in patent law and the concept of authorship in copyright law. Any artificial designation of inventorship based upon the principles of Section 9(3) of the UK Copyright, Designs and Patents Act 1988 would undermine the fundamental principle of identifying the true inventor with the consequences

that would entail. It would be disappointing if patent law were to be weakened by such a provision.

25.4 This provision in the UK Copyright, Designs and Patents Act 1988 is also over 30 years old, over which time there have been huge strides in the development of artificial intelligence. Leaving aside the question whether this provision in UK copyright law remains appropriate given these advances, it would be regrettable if patent laws were to adopt such an old provision. After all, the age of this provision is not that far off even the pessimistic guesses as to when AI systems might be deemed to become “sentient”.

26.1 The applicant also raised the point of what to do with regard to inventions that are a collaboration between a human and an AI system, which is a real possibility, depending on the nature of the invention. In such cases it may very well be entirely appropriate to name both a human inventor and an AI system as co-inventors. In such cases, there can be no dispute that the applicant has named a person pursuant to Rule 19(1) EPC. The Receiving Section’s decision did not address this point, which in some respects was reasonable because it was not the case before it, however, its decision has ramifications to such cases.

27.1 Patent Offices have a very important role to play in connection with the dissemination of innovative ideas and we submit this is particularly important in the context of inventions conceived by AI systems.

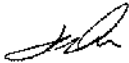
27.2 Patent law’s primary economic function is to incentivise innovation. While an AI system is not likely be motivated by the prospect or otherwise of obtaining a patent for its innovations, the people who invest in such systems can be expected to be. The possibility of protecting the inventive outcomes of such systems is an important incentive to making the investments in the first place. It is important to support investment in innovation that can help people’s lives, including from AI systems that may outperform people in some types of innovation.

27.3 Patent law provides an important incentive to an applicant to disclose an invention and it is important to extend that incentive for inventions made by AI systems so that the public can be informed of those inventions rather than have them kept back from public knowledge for the sole reason that disclosure would deny all forms of reward to the applicant. We submit it would be hugely disadvantageous if, for example, a new diagnostic system developed by an AI system were to be kept secret for the sole reason that the Patent Office would refuse a time limited monopoly in return for that disclosure. The more new technologies that are developed by AI systems and the more advanced these become surely makes it ever more important to provide an incentive to their publication.

27.4 Furthermore, the public should have a right to know which inventions have been conceived by AI systems rather than by a human, which would be denied to the public if Patent Office policy were to allow such invention to be patented only if a human is named as inventor instead of the AI system.

27.5 It is of course the task of patent law and Patent Offices to embrace technical innovation and progress and it would be wrong not to acknowledge and cater for these, which is the very essence of the patent system.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'R. Jehan', written in a cursive style.

Robert Jehan