

# PHENOMENON

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Edited by Graham Powell and Krystal Volney

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# INTRODUCTION

Krystal Volney and I are very pleased to present a plethora of articles, interviews, a discussion, and an invite to take an advanced IQ test, which we hope you enjoy.

We strongly urge you to take part in the intelligence testing research to secure a more significant and reliable basis to the analysis of intelligence. It is, after all, the unifying aspect to the members of the WIN that they all have taken these kinds of tests.

There is also a variety of art and technical prowess on show from around the world, truly representing what the World Intelligence Network has at the heart of its values and desires.

As at the publication date, 2<sup>nd</sup> November 2022, we are experiencing extraordinary times as the world copes with a pandemic, war in Europe, economic uncertainty, and enhanced political turmoil.

We, as editors, wish for better times. We hope that this 82-page journal will, to some extent, rekindle faith in human beings and the benevolent aspects to our species. It is more important than ever that we harness our intellectual resources and social awareness to conquer the climate crisis - before it is too late.

Yours faithfully,

Graham Powell and Krystal Volney

# The Beasts

by Graham Powell

The beasts with jangling bells, low,  
trampling each, soft-surgingly furrow,  
eschewing, unwittingly,  
the early morning slurry,  
oozing under dusk's  
rattling cart of chaff and husks,  
as wheat bales stand on shadowed guard,  
and the silver-lit farmer plies his ward,  
reflecting on life with a Harvest Moon,  
bathed in a deftly, wind-swirled, crimson,  
many cumulus curves of carnal desire  
beckoning Him, and others, to sire  
a breed far better than this,  
a world, full-grown, in bliss.

# **HEGEL'S PHENOMENOLOGY OF SPIRIT: AN EXPLORATORY ENCOUNTER -**

By Paul J. Edgeworth

## **I. PURPOSE**

Georg Wilhelm Friedrich Hegel devotes a long chapter of his *Phenomenology of Spirit* to religion. Hence, we see that the development of religion will recapitulate the developments seen at other levels, from a more all-embracing point of view.<sup>1</sup> Religion is then nothing other than the search for unity that has driven the *Phenomenology* onward, the motivating force behind almost all of the various forms of consciousness.<sup>2</sup> In religion, spirit becomes aware of itself. "Spirit conceived as object, has for itself the significance of being the universal Spirit that contains within itself all essence and all actuality."<sup>3</sup> The purpose of this exposition is to trace the progressive development of religion in Hegel's *Phenomenology*, and to show how the dialectic of religion leads to a reconciliation of the finite and infinite viewpoints of spirit. That is to say actual spirit must become identical with absolute spirit and absolute spirit must show itself as absolute spirit.<sup>4</sup> Religion thus precedes absolute knowledge; it is already the portrayal of speculative truth, but within a particular element, that of representation or portrayal (*Vorstellung*).<sup>5</sup>

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<sup>1</sup>Charles Taylor, *Hegel* (Cambridge: Cambridge Univ. Press, 1975; Cambridge Univ. Press, 1997), 198 (page citation is to the first paperback edition).

<sup>2</sup>Robert C. Solomon, *In the Spirit of Hegel: A Study Of G.W.F. Hegel's Phenomenology of Spirit* (New York: Oxford Univ. Press, 1983; Oxford Univ. Press, 1985), 591 (page citation is to the first paperback edition).

<sup>3</sup>G.W.F. Hegel, *Phenomenology of Spirit*, trans. A.V. Miller with Analysis by J.N. Findlay (New York: Oxford Univ. Press, 1977), §677, 411.

<sup>4</sup>Jean Hyppolite, *Genesis and Structure of Hegel's Phenomenology of Spirit*, trans. Samuel Cherniak and John Heckman (Evanston: Northwestern Univ. Press, 1974), 539.

<sup>5</sup>*Ibid.*, 529.

## II. THE RELIGION OF NATURE

“The first reality of Spirit is the Notion of religion itself, or religion as *immediate*, and therefore Natural Religion. In this, Spirit knows itself as its object in a natural or immediate shape.”<sup>6</sup> Natural religion corresponds to consciousness. Here the divine is seen to dwell in the world of objects.<sup>7</sup> In God as light, we see spirit appearing to itself as the light of the rising sun.<sup>8</sup> “In the immediate, first diremption of self-knowing absolute Spirit its ‘shape’ has the determination which belongs to *immediate consciousness* or to *sense-certainty*.”<sup>9</sup> What light stands for is the divine spirit, but an utterly indeterminate spirit, whose only determinations are what men attribute to it.<sup>10</sup> At its first appearance, the absolute spirit is thus simply all-engulfing absolute being.<sup>11</sup> The appropriate symbol for this view of the ultimate determining ground is that of a great white light.<sup>12</sup> But, as Pinkard tells us, the very abstract metaphysical conception of *das Lichtwesen* has no space in it in which human agents can see themselves reflected. Hence humanity can acquire no more than the most abstract understanding of its essential self-identity. The divine is simply other than humanity.<sup>13</sup>

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<sup>6</sup>Hegel, §683, 416.

<sup>7</sup>Jon Stewart, “The Architecture of Hegel’s Phenomenology of Spirit,” in *Phenomenology of Spirit Reader: Critical and Interpretative Essays*, ed. Jon Stewart (Albany: State Univ. Of New York Press, 1998), 468.

<sup>8</sup>Hyppolite, 545.

<sup>9</sup>Hegel, §686, 419.

<sup>10</sup>*Ibid.*

<sup>11</sup>H.S. Harris, *Hegel: Phenomenology and System* (Indianapolis: Hackett Publishing Co., 1995), 82.

<sup>12</sup>Terry Pinkard, *Hegel’s Phenomenology: The Sociality of Reason* (New York: Cambridge Univ. Press, 1994; Cambridge Univ. Press, 1996), 228.

<sup>13</sup>*Ibid.*, 229.

Likewise, the section entitled “Plant and Animal” corresponds to the second section of the “Consciousness” chapter, that is, “Perception.”<sup>14</sup> “Self-conscious Spirit that has withdrawn into itself from the shapeless essence, or has raised its immediacy to self in general, determines its unitary nature as a manifoldness of being-for-self, and is the religion of spiritual *perception*.”<sup>15</sup> Infinity disintegrates into a “numberless multiplicity of weaker and stronger, richer and poorer Spirits.”<sup>16</sup> As Hyppolite reminds us, being-for-itself within natural figures is not yet spiritual self. The absolute is at first imagined in plants, then in animals; and this is pantheism, that is, the religion in which finite things are God.<sup>17</sup> The plant religion belongs to the non-aggressive agriculturists, and the animal religions belong to the warring tribes that identify themselves and their enemies as different species of living thing altogether.<sup>18</sup> This point is important, as it marks a passage in the animation of the spirit realm from the calm powerlessness of contemplating individuality to destructive independence (*Fürsichsein*).<sup>19</sup> The distinction says little about divine spirit but says a great deal about human activity which manifests itself as destructive before it becomes constructive.<sup>20</sup> In terms of religious consciousness, it is significant that the activity attributed to the divine is projected-out-there.<sup>21</sup> “Spirit’s consciousness is thus now the movement which is

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<sup>14</sup>Stewart, 469.

<sup>15</sup>Hegel, §689, 420.

<sup>16</sup>Ibid.

<sup>17</sup>Hyppolite, 546.

<sup>18</sup>Harris, 83.

<sup>19</sup>Quentin Lauer, *A Reading of Hegel’s Phenomenology of Spirit*, 2d ed. (New York: Fordham Univ. Press, 1993), 265.

<sup>20</sup>Ibid.

<sup>21</sup>Ibid.

above and beyond the immediate in-itself as it is above and beyond the abstract being-for-self.”<sup>22</sup>

### III. THE RELIGION OF THE ARTISAN

The struggle between peoples who follow these different gods leaves nothing in its wake; therefore, we must move to a higher stage where the transforming power of subjectivity reaches expression through its creations.<sup>23</sup> This is the religion of the artisan (*Werkmeister*). Here Hegel is thinking pre-eminently of ancient Egypt,<sup>24</sup> where the artisan creates sacred images through art rather than simply finding them growing and running around in the woods.<sup>25</sup> “The Artificer,” in turn, corresponds to the third section of the “Consciousness” chapter, namely, “Force and Understanding.”<sup>26</sup>

Hegel speaks only of the mathematical form of Egyptian artisanry (pyramids and obelisks) and the conceptualized plant and animal forms which were employed primarily as decoration.<sup>27</sup> “On account of the merely *abstract* intelligibleness of the form, the significance of the work is not in the work itself, is not the spiritual self.”<sup>28</sup> Nevertheless, since it is the product of at least partially self-conscious work, the activity of spirit does appear in it, though only as the abstract side of spirit’s activity.<sup>29</sup> When the artisan makes use of the decorative motifs of plant and animal, he introduces his own conceptualization into the

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<sup>22</sup>Hegel, §690, 421.

<sup>23</sup>Taylor, 200.

<sup>24</sup>Ibid.

<sup>25</sup>Solomon, 602.

<sup>26</sup>Stewart, 469.

<sup>27</sup>Lauer, 266.

<sup>28</sup>Hegel, §692, 421.

<sup>29</sup>Lauer, 266.

work, thus making it more truly his.<sup>30</sup> Even then life within the product is a formless life, an interior which does not speak.<sup>31</sup> It is only when the work of the artisan becomes the work of the artist that it begins to have an inner life of its own.<sup>32</sup>

#### IV. THE RELIGION OF ART

The shift to the for-itself moment and to “Self- Consciousness” comes with “Religion in the Form of Art.”<sup>33</sup> Here, the emphasis is no longer on the natural entity as given, but rather on self-consciousness’ reshaping and reworking of it.<sup>34</sup> Self-consciousness becomes aware of itself in the artistic production. The point Hegel is trying to make is that the divine spirit speaks more authentically in the works of human spirit than in the works of nature.<sup>35</sup>

##### A. THE STATUTE

“The first work of art [the statute], as immediate is abstract and individual.”<sup>36</sup> It is an inanimate thing which is animated only in the activity of cult. What is important, says Lauer, is that the form in which the spirit is depicted is not simply an imitation of a form found in nature which understanding can grasp; it is a creation in which human

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<sup>30</sup>Ibid.

<sup>31</sup>Ibid.

<sup>32</sup>Ibid.

<sup>33</sup>Stewart, 469.

<sup>34</sup>Ibid.

<sup>35</sup>Lauer, 268.

<sup>36</sup>Hegel, §705, 427.

consciousness can grasp itself in a way in which the merely objective understanding cannot. The god depicted in the statute has no self-consciousness; the only self-consciousness involved is that of the artist who created the work.<sup>37</sup> “The artist learns that he did not produce a being *Like himself*.”<sup>38</sup> “The work of art therefore demands another element of its existence, the god another mode of coming forth than this. This higher element is Language - an outer reality that is immediately self-conscious existence.”<sup>39</sup>

## B. THE HYMN

In the hymn, the community creates a work of art that helps it to understand its own determinative role in the appearance of the divine.<sup>40</sup> Hegel contrasts the hymn with the oracle which represents a more primitive formation of religious consciousness.<sup>41</sup> The oracle speaks in riddles and opacities.<sup>42</sup> Oracular speech is the language proper to the god who is the spirit of an ethical people, but it is only the human individual who interprets its ambiguities as he will, who can

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<sup>37</sup>Lauer, 268.

<sup>38</sup>Hegel, §709, 429.

<sup>39</sup>Hegel, §710, 429-30.

<sup>40</sup>Pinkard, 236.

<sup>41</sup>Ibid., 237.

<sup>42</sup>Taylor, 608.

give it meaning.<sup>43</sup>

### C. CULT AND TEMPLE

Just as the devotees of the god gave life to the statute and meaning to the oracular words, so it is these same devotees who synthesize both life and meaning in the temple ceremony where the god is rendered present in the collective consciousness of the people.<sup>44</sup> In the Greek cult, a more determinate form of self-knowledge is gained; in it the participants come to reflect on the nature of their own activity and to see that activity as itself essential to the bringing forth of the divine.<sup>45</sup> “The abstract Cult therefore raises the self into being this pure divine element.”<sup>46</sup> The temple ceremony is then a means of reconciling human consciousness of the divine with human consciousness of the self; it gives actuality to what was abstract.<sup>47</sup> “The act of the Cult itself begins, therefore, with the pure *surrender* of a possession which the owner pours away or lets rise up in smoke.”<sup>48</sup> In the act of sacrifice, the individual brings himself into a kind of reflective unity with the

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<sup>43</sup>Lauer, 269.

<sup>44</sup>Ibid.

<sup>45</sup>Pinkard, 239.

<sup>46</sup>Hegel, §715, 433.

<sup>47</sup>Lauer, 269.

<sup>48</sup>Hegel, §718, 433.

essence of things.<sup>49</sup> Once again, the self is the center of attraction, and as the sacrifice culminates in a meal for those who offer it, it comes back to them as a kind of self-affirmation.<sup>50</sup> In the long run everything in the temple ceremony is referred back to the people, and this is what the inner, religious life of the people means.<sup>51</sup>

#### D. THE ETHICAL NATION

“The nation that approaches its god in the Cult of the religion of art is the ethical [*sittliche*] nation that knows its state and the actions of the state to be the will and the achievement of its own self.”<sup>52</sup> The people’s enthusiasm must now produce a work that is a living self.<sup>53</sup> At this level, the absolute as artist seeks a more adequate living embodiment, and this it finds in the athlete’s matchless body displaying his powers at one of the great athletic festivals.<sup>54</sup> Unconscious extravaganzas and splendid corporality [*sic*] are assembled in the feast that man gives, but this extravaganza lacks self-possession, and this splendid corporality [*sic*] lacks the depth of essence.<sup>55</sup> In language

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<sup>49</sup>Pinkard, 239.

<sup>50</sup>Lauer, 269.

<sup>51</sup>Ibid.

<sup>52</sup>Hegel, §720, 435-36.

<sup>53</sup>Hegel, §725, 438.

<sup>54</sup>Findlay, “Analysis,” §725, 582.

<sup>55</sup>Hyppolite, 553.

alone can there be a perfect balance of interior and exterior, and this balanced language is no longer that of the hymn or the oracle, but the luminous language of literature.<sup>56</sup>

## V. THE RELIGION OF SPIRITUAL INDIVIDUALITY

We turn then to “the spiritual work of art.” It begins, when “the separate beautiful national Spirits unite into a single pantheon, the element and habitation of which is language.”<sup>57</sup> It is through the *Sittlichkeit* common to all that each individual shares in this common enterprise.<sup>58</sup> “It is no longer the actual practice of the Cult, but a practice that is raised, not yet indeed into the Notion, but at first into *picture-thinking* [*Vorstellung*], into the synthetic linking-together of self-consciousness and external existence.”<sup>59</sup>

### A. THE EPIC

The first poetic language to make manifest this universality of the gods is the epic.<sup>60</sup> The minstrel is the individual who unites the whole picture through the power of his muse.<sup>61</sup> He relates the people, through its heroes, to the gods, thus creating a *Vorstellung* of the divine-human

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<sup>56</sup>Findlay, §726, 583.

<sup>57</sup>Hegel, §727, 439.

<sup>58</sup>Lauer, 271.

<sup>59</sup>Hegel, §729, 440.

<sup>60</sup>Lauer, 271.

<sup>61</sup>Findlay, §729, 583.

relationship.<sup>62</sup> It is the minstrels and their hearers who do the universalizing. The gods, in turn, are the beautiful individuals who quarrel with one another in a comic fashion. Still worse, the gods themselves are seen to be caught in the grip of Fate. Thus, the epic turns out to be the saga of the submission to Fate.<sup>63</sup>

#### B. TRAGEDY, COMEDY, AND INDIVIDUALITY

The religious consciousness moves next to tragedy where the hero no longer submits to Fate. Here, the story of the divine-human relationship is no longer narrated but acted out. Here, also, the wisdom of the people is put into words by the chorus. Because the gods speak in riddles, man becomes the plaything of the gods. In the last stages of tragedy, only Zeus really counts as a god any longer and human beings begin to count as individuals.<sup>64</sup> The depopulation of the gods is complete in comedy. Man has become conscious that it is he who has put the gods on the throne; accordingly, the culmination of the religion of art is the triumph of the individual self.<sup>65</sup> The *individual self* is the negative power through which the gods vanish.<sup>66</sup> Thus, the individual self “abides with itself” [is present to itself] and is the sole

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<sup>62</sup>Lauer, 271.

<sup>63</sup>Ibid., 272.

<sup>64</sup>Ibid., 273.

<sup>65</sup>Ibid.

<sup>66</sup>Hegel, §747, 452.

actuality.<sup>67</sup>

Natural religion then was substance, and through the religion of art, spirit advanced from the form of substance to assume that of subject. The depopulation of the pantheon not only ushers in a new conception of man, but also calls for a new conception of God which will be to man a revelation of what man himself is.<sup>68</sup>

## VI. THE RELIGION OF REVELATION AND THE INCARNATION

This brings us to the religion of revelation. This section represents the in-and-for-itself movement, and thus corresponds to the final third of the “Reason”<sup>69</sup> and “Spirit” chapters, respectively.<sup>70</sup> In revelation, says Stewart, man recognizes himself in God and through this recognition becomes reconciled with the world. This reconciliation comes about through the revealed religion, that is, Christianity, where God is revealed on earth as man.<sup>71</sup> For Hegel, this account contains a deep metaphysical truth expressed in terms of *Vorstellung*.<sup>72</sup>

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<sup>67</sup>Ibid.

<sup>68</sup>Lauer, 274.

<sup>69</sup>Reason can be seen then as the synthesis of objective consciousness and subjective self-consciousness, what consciousness truly is, the paradigm of developing self-consciousness. Ibid., 275.

<sup>70</sup>Stewart, 469.

<sup>71</sup>Ibid., 470.

<sup>72</sup>Ibid.

The dialectic of religion has thus led to a reconciliation of the finite and infinite viewpoints of spirit in the Incarnation. For Hegel then all previous forms of religious consciousness were inadequate in that they represented a god or gods not recognizable as spirit, that is, in nature, or gods who had some of the attributes of spirit but were not present in their man-made representations.<sup>73</sup> In Christianity, however, the Incarnation presents to religious consciousness a uniquely concrete union of the divine and the human in the God-man; thus, revealing to human consciousness that to be totally human is to be divine.<sup>74</sup>



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<sup>73</sup>Lauer, 275.

<sup>74</sup>Ibid.

Prior to the Incarnation, religious consciousness had been consciousness of a spiritual being, but this spiritual being did not have this consciousness in himself.<sup>75</sup> The Incarnate God thus reveals that spirit has two sides: (a) substance alienating itself from itself and becoming self-consciousness, and (b) an externalized self-consciousness which is in itself the universal essence or substance. God becoming man is universal essence or substance becoming self-conscious. Christ is therefore spirit. “For *actuality* or self-consciousness [human], and the *in-itself* as substance [divine], are its [Christ as God-man] two moments through whose reciprocal externalization, each becoming the other, Spirit comes into existence as this their unity.”<sup>76</sup>

Thus the belief arises “that Spirit is *immediately present* as a self-conscious being, i.e., as an *actual man*, that the believer is immediately certain of Spirit, *sees, feels, and hears* this divinity.”<sup>77</sup> God is thus taken to exist before the yearning, conscious mind, and not merely a projection of it.<sup>78</sup> “[T]his God is sensuously and directly beheld as a Self, as an actual individual man [recall the words and actions of Thomas the apostle]; only so *is* this God self-consciousness.”<sup>79</sup> The

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<sup>75</sup>Ibid., 277.

<sup>76</sup>Hegel, §755, 457.

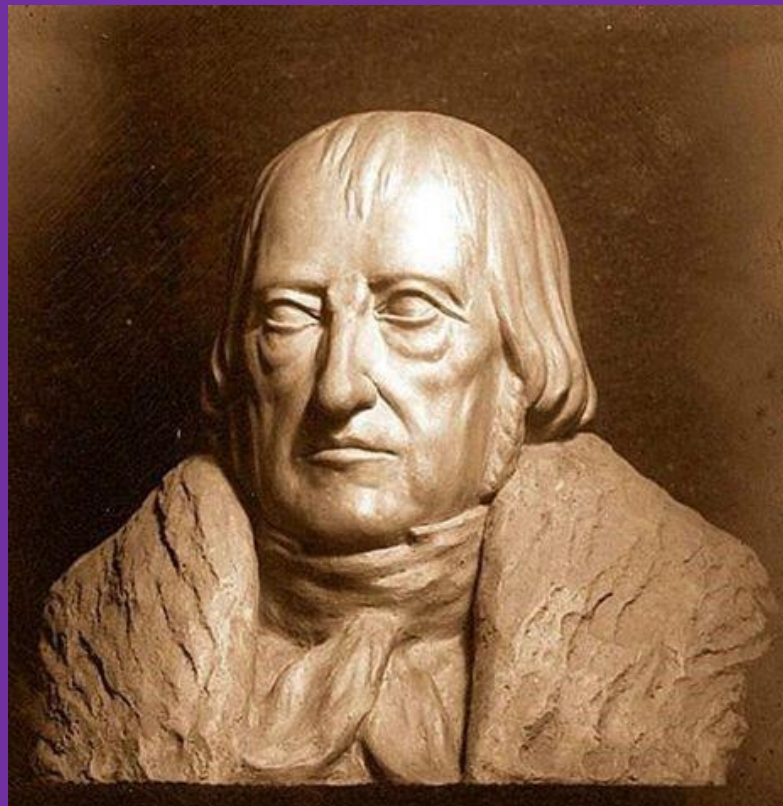
<sup>77</sup>Ibid., §758, 458

<sup>78</sup>Findlay, §758, 586

<sup>79</sup>Hegel, §758, 459.

Incarnation then is the simple content of the absolute religion.

In this religion the divine Being is known as Spirit, or this religion is the consciousness of the divine Being that it is Spirit. For Spirit is the knowledge of oneself in the externalization of oneself; the being that is the movement of retaining its self-identity in its otherness. This, however, is Substance, in so far as Substance is, in its accidents, at the same time reflected into itself, not indifferent to them as to something unessential or present in them as in an alien element, but in them it is within itself, i.e., in so far as it is Subject or Self. Consequently, in this religion the divine being is *revealed*.<sup>80</sup>



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<sup>80</sup>Ibid., §759.

The important point being made here by Hegel is that the form in which God is here present to consciousness corresponds to God's self-consciousness as no previous form had; it is a point that is being made speculatively; hence, it involves a comprehensive concept of God which progressively corresponds more adequately to the spiritual reality of God.<sup>81</sup> God is revealed as He is. He is immediately present as spirit, but to be immediately present as spirit is to say that God is attainable in pure speculative Knowledge alone.<sup>82</sup> In the fullness of speculative thought, says Taylor, we can grasp the truth that God is identical with each man, and yet non-identical with him as his particularity fails to match the universal nature of God. But at the stage men then were, the unity of God and man had to be present in immediate sensible intuition, and this could only be found in a unique God-man, where the singleness of the divine subjectivity is represented in the uniqueness of the son of God.<sup>83</sup>

## VII. THE NECESSITY OF THE DEATH AND RESURRECTION

We have thus seen that the Incarnation is a crucial stage in the religious dialectic, but it is still necessary for us to go further. This necessity to transcend the Incarnation is reflected in Christian doctrine itself, for Christ dies, is resurrected, ascends to heaven, and sends the Holy Spirit.<sup>84</sup> Hence, for Hegel, it was necessary for Christ to die. As Taylor states it, Christ had to disappear as a particular, external point of juncture between man and God, so that the Incarnation could be

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<sup>81</sup>Lauer, 277.

<sup>82</sup>See Hegel, §761, 461.

<sup>83</sup>Taylor, 209.

<sup>84</sup>Ibid., 210.

spiritualized and universalized.<sup>85</sup> God himself is fully present as Spirit, that is, both substance and spirit, only in the spirit of the community.<sup>86</sup> “Spirit remains the immediate Self of actuality as the *universal self-consciousness* of the [religious] community, a self-consciousness which reposes on its own substance” such that “this Substance is a universal Subject.”<sup>87</sup> This community is no longer Christ as a specific figure, but the Holy Spirit in which the Incarnation becomes eternal.<sup>88</sup>

Findlay tells us that the passing of Christ’s life into the remote past merely pictures its translation to the plane of universal meanings.<sup>89</sup> “[I]t is merely dipped superficially in the element of Thought, is preserved in it as a sensuous mode, and not made one with the nature of Thought itself.”<sup>90</sup>

This *form of picture-thinking* [*Vorstellung*] constitutes the specific mode in which the Spirit, in this community, becomes aware of itself. This form is not yet Spirit’s self-consciousness that has advanced to its Notion *qua* Notion. This combination of Being and Thought is, therefore, defective in that spiritual Being is still burdened with an unreconciled split into a Here and a Beyond.<sup>91</sup>

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<sup>85</sup>Ibid., 495.

<sup>86</sup>Lauer, 278.

<sup>87</sup>Hegel, §763, 462.

<sup>88</sup>Hyppolite, 568.

<sup>89</sup>“Analysis,” §764, 586.

<sup>90</sup>Hegel, §764, 462.

<sup>91</sup>Ibid., §765, 463.

## VIII. ABSOLUTE RELIGION AS PENULTIMATE FORM

Hegel thus tells us that even absolute or revealed religion is limited. Although Christianity reflects basic truths it does so in an unclear obscure form, that of representation or *Vorstellung* as against thought.<sup>92</sup> Christian religion is the closest account, finite spirit can ever give of the absolute substance. What is required then is a higher form of development which gives rise to pure notion. Real development of absolute spirit does not imply any finitude nor any kind of representation. It is rather a purely logical structure of spirit from a meta-logical point of view. By relying only on pure notion, we will come to know God as he exists before and after time.

The inadequacy of *Vorstellung* to capture the dynamic reality to which only the concept is adequate allows Hegel to introduce a whole series of representational terms which need clarification.<sup>93</sup> For example, God is said to have created the world. But create is representation's "word for the Notion itself in its absolute movement."<sup>94</sup> God continues to be subject and self at the same time the world is created, or as Hegel would say "this *being-for-another* is at the same time a *world*."<sup>95</sup> At the same time, spirit is the whole Trinitarian process.<sup>96</sup> As Hegel sees it, the Incarnation of the divine Word in the individual man Jesus culminates in the outpouring of the divine spirit in the universality of

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<sup>92</sup>Taylor, 207.

<sup>93</sup>Lauer, 280.

<sup>94</sup>Hegel, §774, 467.

<sup>95</sup>Ibid.

<sup>96</sup>The doctrine of the Trinity represents as it were, God's relation with Himself, which, in turn, reflects the speculative tri-partite movement: God the Father, who begets the Son as his other, and who is united with Him in love by the Holy Spirit. See Taylor, 212.

the believing community;<sup>97</sup> that is to say, spirit is the whole community of readers of the Gospel as well.

Religion, then, in the form of Christianity comes to be for Hegel the penultimate form of human consciousness. What is revealed to us in religion through representation must still be expressed in the full clarity of speculative thought, that is, philosophy.<sup>98</sup> To have achieved this then, is to have achieved absolute knowledge.<sup>99</sup>

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<sup>97</sup>Lauer, 282,

<sup>98</sup>Taylor, 213.

<sup>99</sup>Ibid.

# Three People on a Bus

By

Graham Powell

There is a well-known picture of two men who are sitting on each side of a bus as it goes along a mountain road. One man is smiling as he looks across the sun-filled valley, but the other man is crouched a little, looking miserable because he can only see the dull and dusky outcrops of the hillside.

The implication of the phrase that goes with the picture is that one man has a positive outlook, and the other man doesn't. The picture highlights the difference in the views and therefore expresses the different moods of the passengers.

Looking more deeply, however, we can ask ourselves about the situation. For example, did they have a choice about where to sit? If they had a ticket which dictated their seat allocation, was it **the situation** which caused their responses?

In this case, one man was lucky and sat on the valley side of the bus, which made him feel happy. The other man wasn't so lucky, and with him already suffering from Seasonal Affective Disorder (for example) the bleakness of the hillside made him feel worse.

The alternative scenario is that the men chose which side of the bus to sit on, and the side with the open view was clearly the more positive choice, mainly because it was easy to enjoy the pleasant valley arrayed in the warm sunshine. Here, it was the **thinking and reasoning** of the passengers which made the difference.

The second consideration above is often one which optimistic messages promote the most, I.E., that we can choose and develop a positive mindset and sit on the side of the bus which is best for us. Where positive thinking goes further is later, when all the 'valley side' of the bus is full, so there is no further choice on the bus: you have to sit on the dark, shady side of the bus.

In this scenario, positive thinking helps us respond to the situation in a way which maintains or enhances our feelings, so we stay in a happy, positive frame of mind. Eventually, our positive thinking can continue, no matter what the situation is that we find ourselves in. This is the prevalent message, which is promulgated as a positive mode of living, and indeed it is.

At the beginning of the journey, however, for a full picture, there should be a third passenger on the bus, one who exemplifies **an individual's self-image** and how mindsets fundamentally are. This third passenger could be sitting at the back, resting in the central seat. They may have a view of themselves as being important, so the extra legroom afforded by the central seat, plus the ability to view either side of the bus with ease, reinforces that sense of importance. Alternatively, the third passenger may be relaxed, enjoying each view, and watching the passengers and driver as they interact, which again, reinforces their basic attitude as they proceed towards their destination.

Now then when you ask yourself: **"Which of the three passengers on the bus is me?"** The answer is, of course:

**"All three of them."**

We can develop a positive mindset to address situations that arise, so respond to them optimally, and be prepared to develop ways which reinforce an optimal state of being, and this can become part of what constitutes 'us' at a very deep level, so help us in our lives, whichever scenario on 'The Bus of Life' happens to come along.

# Sigma Test Extended

By Hindenburg Melão Jr.

Translated from Portuguese to English by Eisque Nezuka

**Sigma Test Extended** aims to be the most difficult and reliable cognitive test for measuring the “intelligence” construct, especially for people with an IQ above 160 ( $\sigma=16$ ), requiring a wide range of cognitive skills at different levels of depth and complexity.

At the same time, it is a test that does not require specialized knowledge. Just knowledge of Elementary School, Middle and High School. In some specific cases it may be necessary to make small queries about the meaning of some words, but there is no need for specialized training in any specific area.

The ultimate goal of a good intelligence test is not to measure your ability to solve the questions on the test itself. The aim is to use these questions as an indirect means of discovering other, more important competencies. Therefore, one cannot lose sight of the primary objective to be achieved, otherwise one runs the risk of creating addicts to IQ tests, instead of discovering talents for Science, Mathematics and other important fields of knowledge.

This is the purpose of STE, measuring the ability to solve diverse real-world problems, problems ranging from everyday issues to problems with an Olympic level of difficulty, requiring a combination of divergent and convergent thinking at different levels of sophistication, whose issues are compatible with the skill levels you want to measure. This is an important differentiator because IQ tests have severely skewed ceilings.

The Stanford-Binet V, for example, can have the ceiling extrapolated by up to 225 IQ, as can be seen in the following table:

**Table 1****Comparison of Form L-M and SB5 Gifted Categories and IQ Scores**

Form L-M		SB5	
Levels of Giftedness	IQ Score Ranges	Levels of Giftedness	IQ Score Ranges
Moderately Gifted	125–144	Superior	120–129
Highly Gifted	145–159	Gifted or Very Advanced	131–144
Exceptionally Gifted	160–179	Very Gifted or Highly Advanced	145–160
Profoundly Gifted	180+	Extremely Gifted or Extremely Advanced	161–175 (via EXIQ)
		Profoundly Gifted or Profoundly Advanced	176–225 (via EXIQ)

Note. Form L-M and SB5 categories are not directly equivalent.  
EXIQ = Extended IQ (see Roid, 2003d)

However, the most difficult questions on the Stanford-Binet V can be easily solved by people with an IQ of 135 to 140.

This produces a very large disparity between measured IQ and true IQ. Anyone with an IQ of 140, as long as they are fast enough and have a good cultural level, can reach over 200 IQ on this test, generating a gigantic amount of false diagnoses of genius. This does not mean that distortions are always upwards. The way in which standardization is done, this would not be possible, because if it were like that, the average would be displaced. Therefore, upward distortions occur at approximately the same frequency and magnitude as downward distortions.

As a result, really great people can score far below their true potential on this test and this has been proven several times. In the study carried out by Lewis Terman, starting in the year 1921, 1528 children with an IQ above 135, none of the 1528 selected children won a Nobel Prize, nor any other international prize of great importance in scientific areas or in Mathematics. But among the children who failed the test, two of them were awarded the Nobel Prize in Physics. This makes it evident that the Stanford-Binet, while very good and accurate for measuring IQs between 70 and 130, is not appropriate for higher levels. Terman's group included about 100 children with an IQ over 175, but none of them won 1 Nobel, with the average IQ of Nobel laureates in Science being 154. This is another serious inconsistency in the scores produced by the Stanford-Binet at the highest scores.

How Terman's study was carried out with people screened as children, it could be argued that the problem was not inherent in the test, but in the fact that they were screened too early. In fact, this is also one of the problems, but it is not the only one and it is not enough to explain

all the observed anomalies. To better clarify this point, it is worth citing the cases of people registered in the Guinness Book for having the highest IQ in the world based on Stanford-Binet scores applied at different ages:

The first record of this modality in the Guinness Book occurred in 1966, in which Chris Harding was presented as the person with the highest IQ in the world, for having obtained a score 196-197 in the Stanford-Binet (I believe that the 1960 standardization form was used, Stanford-Binet L-M). In a normal distribution with a mean of 100 and a standard deviation of 16, only one in 1 billion people have an IQ above 196. However, the number of people screened with the Stanford-Binet was in the few thousand. In the standardization process, the samples were also in the few thousand. Thus, the best that could be done was to place the test ceiling close to 155 to 160, and even then there would still be the problem that the most difficult questions were at a difficulty level close to 140, so scores 160 would only indicate higher speed to solve problems level 140, instead of indicating an intellectual level of 160.

In the 1970s and 1980s, Kevin Langdon and several other people started showing up with scores of 196-197, claiming to share the record for the highest IQ.

Some of the people who applied for registration as the person with the highest IQ in the world between 1966 and 1978 were:

- Christopher Philip Harding
- Kevin Langdon
- Bruce Whiting
- Robert Bryzman
- Leta Speyer
- Johannes Douglas Veldhuis
- Ferris Eugene Alger

There were also other cases after 1978 claiming the record, with nominal IQs above 197:

- Kim Ung-yong with IQ 210
- Marilyn vos Savant with IQ 230, then corrected to 228, then corrected to 218, then corrected to 186, then 190
- Keith Raniere, with IQ 242

Finally Guinness removed this modality. One of the likely reasons is that it became clear that there was not adequate standardization that would allow a fair comparison. The adjustment metrics from childhood to adulthood scores were skewed, the use of different tests also produced very different scores. Another reason that may have aggravated this situation was the controversy over Marilyn being accused of falsifying the dates in her report and Keith Raniere being arrested, accused of several crimes, including murder. In Marilyn's case, I think her version is very plausible. She claims she took the test at age 10, but it was incorrectly recorded on her chart as if she had been tested at 11 years and 4 months. About this controversy, to the point of knowing the facts, I side with Marilyn and I explain the reason: in 2004 and 2005, I worked as a consultant at the main Psychology publisher in Brazil, I standardized and revised several tests of IQ, and I could see that the number of registration errors in the data of the people examined was absurdly large, reaching more than 5%. It was very common for people registered with birth year 2040, birth month greater than 12, among others. So I think it's much more likely that the psychologist who examined her actually got the date incorrectly than that Marilyn lied about it. Considering Marilyn's history, I have no reason to question her sincerity, while the history of recording errors in psychometric reports is very frequent. In Keith's case, the facts and evidence against him are plentiful and unquestionable.

The important point is that a test applied to a few thousand people in the standardization process, does not allow to establish a ceiling above 160 with the aggravating factor that the ceiling of difficulty does not exceed 140. But even if the test was really able to measure correctly at the level up to 196 and even if everyone in the world had been examined with the Stanford-Binet (considering that some people would be children and others would be very old), it wouldn't expect to find more than 3 or 4 in the world with an IQ above 196.

However, in a sample of a few thousand people there were 10 people with an IQ above 196, some reaching 242, whose rarity is many orders of magnitude outside the limit of the number of people ever born, with a rarity level of  $1 \text{ in } 2.86 \times 10^{15}$  where the number of people already born is about  $10^{11}$ .

It is a fact that this sample of a few thousand is not representative of the general population. Therefore, it is natural that more people with high IQs would be found in this sample than in a random sample of the population. If you apply an IQ test to Harvard or Cambridge students, it is natural that the average score is much higher than the average score of the general population, and it is also very likely that some of the 10 smartest people in the US or the UK are in these institutions.

The main problem is not the statistical anomaly. The biggest problem is that 100% of those people with IQs above 196 didn't stand out as scientists, mathematicians or authors of brilliant intellectual works that matched the measured IQs.

Marilyn herself, in an interview on the David Letterman show, made the following comment (excerpt from the interview):

*D: I have uh, I have miserable teeth. I mean, they're healthy... [Paul laughs aloud] They're just odd, they're odd. You know, I can eat things through fences. [laughter] Not that there's any call for that, but uh... All right, now Marilyn, let's get back to you and your... uh... head. [laughter] Uh, what uh... now how do we know you're the smartest woman in the world?*

*M: Well, you probably don't know that, I don't think anyone really knows that, not that many people have taken an IQ test. And so I had the highest score on the Binet... so far... but this very...*

*D: [trying to interrupt] Now when did you...*

*M: ...small minority of people in the world have taken a test, and... [dramatically] what did Binet know, for heaven's sake? [Paul & Dave both chuckle as Marilyn rambles] I mean back in 1904, he didn't... [laughter] he didn't stumble over a Rosetta Stone, he said, "This is what I think I'm gonna do," and everybody's been imitating him ever since.*

Chris Harding, in a 2013 article stated:

*"Genius is not intelligence. Genius is creative ability of the highest possible kind. True, most geniuses are highly intelligent, but this depends on the field their genius was recognized in. And here there is a plethora of problems. Recognized by whom; which people, what society, when and where. There is an old joke that goes something like I will believe in psychologists devising tests*

*from geniuses when monkeys devise tests for psychologists. I do have ideas of my own on this, but so far no one seems interested in this. I was listed in the Guinness Book of World Records seven editions 1982-88 under "Highest IQ" and was given a certificate for this. I was also listed in 500 Great Minds of the Early 21st Century in 2002. All such lists-comparisons are temporary.*

*There appears less and less match between persons and outcomes these days. Humanity hangs by its intellectual neck on the tree of tragedy -there are no Leonardo's in the 19th, 20th, and so far in the 21st Century. Yet he/she must still exist we should think? With mass education has come the noisy ones but no Geniuses to show for it all. Bad money has driven out good money, bad people good people. The masses have come to judge the best and are part of this process to drive out the very people they need most, all in the name of incorrectly accessed political correctness. Today the system has driven down performance; today big institutional science has been a spoiler of great insights delaying progress everywhere. Today it is business as usual. The criminal comes to the top. My greatest fear is that an end is coming to the centuries of progress that mankind has grown used to. The age of genius may be at an end. I'm sorry to ramble on this in such a 'scatter gun' way."*

Marilyn's statement is superficial because it is compatible with the TV show aimed at the mass audience, but her columns in Parade magazine are very high and deep, consistent with the IQ 186-190 that she got on the Mega Test. Chris Harding's statement, although short and on a topic that doesn't offer much depth, also reveals a very high intellectual level. His opinion on the meaning of "genius" is questionable, but for a one-paragraph text it is acceptable. And the key point is that both recognize that scores measured by conventional IQ tests present several problems and cannot be taken too seriously when used to try to assess intelligence at higher IQ levels.

This shows that, although scores in the range of 70 to 130 are able to measure intelligence reasonably well, as the scores move away from the mean, what the tests measure gradually ceases to be intelligence and becomes something shallower, such as reasoning speed for trivial questions or mechanical repetition of tasks. The problem is that as the

IQ to be measured increases, the test continues to measure the same variable, but the meaning of intelligence changes. For children aged 8 to 12 with an IQ between 80 and 130, it may be appropriate to measure the ability to spell words without making mistakes as a satisfactory criterion for determining written communication aptitude, but if applying this same method to try to estimate communication aptitude writing by Shakespeare or by Dostoevsky, it is evident that the result will be skewed, it not because these writers are too quick at spelling nor because they are infallible at it. They can even make more mistakes than a well-trained year-old who has “talent” at spelling. The point is that this criterion is no longer useful at the levels of Shakespeare, Goethe or Dostoevsky. In fact, it ceases to be useful at much lower levels, close to 125 or 130. The same problem occurs when trying to use elementary questions like the Stanford-Binet ones to measure intellectual levels above 140.

The fact that the Nobel prize-winner average IQ is at the rarity level of one in 3000, while the frequency of Nobel prize-winner in the population is less than one in 1 million, also corroborates that scores above 130 on the Stanford-Binet are highly distorted, dramatically failing to “let go” of the brightest people, while at the same time incorrectly selecting several who are not really bright, but just quick at performing trivial tasks.

This is not a defect unique to the Stanford-Binet. All the best IQ tests including WAIS, Raven, Cattell, DAT, D70 etc. have this same problem (and obviously there are more and worse problems in tests that aren't the best). One of the main reasons for this is the same as already mentioned: these tests attempt to measure IQs at levels well above 140, but do not include questions with a difficulty level above 135.

To solve this problem, in 1973 Kevin Langdon created the LAIT (Langdon Adult Intelligence Test), the first really difficult intelligence test, capable of measuring correctly until close to 165. In 1982, Ronald Hoeflin published his Mega Test, later the Titan Test, Ultra Test and Power Test. The Hoeflin tests could correctly measure up to about 170 or even 180 IQ.

Thus, a new era of intelligence testing had been inaugurated. The traditional tests used in clinics to measure in the range of 70 to 130 continued to exist, covering more than 95% of the population, and it also became possible to measure intelligence at much higher levels.

However, these tests have not yet reached the “critical point” that allows us to correctly identify genius minds. The people with the highest scores on the Hoeflin tests are undoubtedly very smart: Rick Rosner, Chris Langan, Marilyn Vos Savant, etc. with scores of 190 or above. But when you compare the intellectual output of these people with that of a Nobel laureate with an IQ of 160, the difference is blatantly favorable to the Nobel Prize winner. Something was still missing from the variables to be measured at the top of the difficulty level. In the years and decades that followed, other tests were created, including the Eureka, Logima Stricta, and the Sigma Test.

The Sigma Test, since its first version, tries to be innovative in several aspects. This does not mean that it has achieved this purpose, but at least we are trying, and some of the results obtained have been encouraging. There is controversy over how much difficulty the Sigma Test can measure correctly. Some people think the actual ceiling is no more than 180, others think it goes up to 200 or a little more. This is difficult to determine until the number of people evaluated is large enough or until there is some great genius internationally recognized as such (Fields Medal, Abel Prize, Nobel Prize in Physics) who is evaluated by the Sigma Test. But regardless of the difficulty ceiling, the Sigma Test also brings other relevant innovations and some of them have already been experimentally corroborated. Among these innovations, the most important is the new standardization method, first introduced in 2000 and first applied in 2003.

The new normalization method used in Sigma Test is distinguished from all others by generating scores whose antilogs are on a scale of proportion. Furthermore, this method makes it possible to correctly calculate the corresponding percentages, avoiding the inflated results that are produced by traditional methods. This topic is covered in more detail in other articles.

Another differentiator is the variety of cognitive processes required to solve the questions. This is extremely important for measuring intellectual capacity in a wide range of settings. The ability to play chess, for example, measures a very specialized and very narrow latent trait, which cannot be interpreted as representative of general intelligence. Chess skill is positively correlated with intelligence, but as the rating moves away from the average, this score is determined more and more by chess-specific skill and less and less by general intelligence.

The same happens if a test uses exclusively series of figures, or if it uses exclusively series of numbers. The measured variable cannot be interpreted as representative of general intelligence. This statement runs counter to some “psychometric mantras” that have been repeated for decades - in particular, about homogeneity (the higher the better) and about g saturation - so it requires a little more detailed analysis:

The Series of figures have the virtue of minimizing the requirement for knowledge, preventing cultural and age factors from interfering with the result and this is a good thing. On the other hand, they limit the ceiling of difficulty and complexity, but the main problem is excessive homogeneity.

There are many different ways to measure homogeneity. One of the best and most common is through Cronbach's  $\alpha$ .

In order to understand how Cronbach's  $\alpha$  works, first it is worth explaining how the Kuder-Richardson works: the idea is quite simple, the test is divided into two equivalent halves and the score that each person obtained in each half is verified. This division can be between odd and even questions, it can be by lottery, or by any other reasonable criterion. If the halves are equal, each person is expected to score approximately the same score on each half. The idea of Cronbach's  $\alpha$  is similar, but all covariances between all items are considered, making this measure independent of the criterion adopted to separate the two halves, this is almost equivalent to comparing all possible combinations of two halves.

It is positive and desirable that a good test has a high Cronbach's  $\alpha$  (above 0.7), because it indicates that the test items are contributing to measure the same variable. This everyone knows and repeats religiously.

On the other hand, it is bad if Cronbach's  $\alpha$  is excessively high (above 0.9), because it indicates that the test items are not covering a sufficiently wide range of the characteristics that should be measured, that is, the items are excessively redundant and specialized. This fact is apparently neither known nor well understood, so it requires a little more detailed explanation. For this, I will use a didactic example:

A test consisting exclusively of 60 numerical series tends to present Cronbach's  $\alpha$  greater than a test that includes 20 numerical series, 20 series of figures and 20 analogies. If the difficulty distributions are the same on both tests, then the one with 60 numerical series is likely to

have a higher Cronbach's  $\alpha$ , in which case having a higher Cronbach's  $\alpha$  may be worse. In other words, a Cronbach's  $\alpha$  of 0.85 may be better than 0.92.

An analogous effect can also produce illusions about g saturation, making a test appear to be more g-saturated than it actually is, simply because it is excessively homogeneous. In a test that is too homogeneous, the first factor extracted may be sufficient to explain more than 80% or 85% of the variability, not because the test is in fact more saturated with the g factor, but because within the limits of what is being evaluated by this test. Thus, a leading factor common to all items accounts for 80% to 85% of the variance or even more.

In this context, pseudo saturation of g is a bad symptom, unless the ultimate goal is to measure the ability to solve series of numbers and figures. But this is usually not what you want to measure. The purpose of a good intelligence test is to gather an appropriate list of questions to assess your ability to solve real problems. The objective is not the score on the test itself, but to ensure that this score is able to reflect the ability to solve different problems in real life. And in this, STE stands out, as it includes several problems with a structure very similar to real problems.

The ability to solve series of pictures is also useful, because this same ability also contributes to solving other problems in other situations. However, directly measuring the type of skill you want to know is preferable to measuring a correlated attribute. To clarify this problem, let's analyze two more well-known variables: weight and height.

People's weight and height are moderately correlated variables. This means that by knowing a person's weight, one can estimate that person's height. However, if it is possible to directly measure one's height, this is better than measuring weight and trying to estimate height based on weight. If it is not possible to measure height, and the only information available is weight, it is possible to use this information to try to roughly estimate height, but the error can be very large, because there are short people with a lot of fat mass and there are tall very thin people.

Therefore, if there is a group of variables more closely related to height, such as femur size, foot size, arm size, then measuring these variables should provide a more accurate estimate of height than trying to estimate height with based on weight. Femur size is not exactly

proportional to height, but variation in femur size preserves the proportion to variation in height much better than variation in weight to variation in height.

The same applies to foot size and arm size. When you consider femur size, foot size, and arm size together, you can make a much more reliable estimate for height than if you tried to estimate height on the basis of weight.

So, using a series of figures test to estimate intelligence is like using weight to estimate height, that is, it works, but the errors and distortions are large. Furthermore, as you get closer to the higher levels of weight, the error also increases and the same happens when you want to measure correctly at the highest levels of height, because the higher levels of height rarely correspond to the highest levels of weight. The tallest people in the world are not the same as the heaviest people in the world. Usually, the heaviest ones are normal height or just a little above normal.

But if the measurement were based on the size of the femur, arm, and foot, estimating height based on each of these variables, then averaging the results, the estimate for height would be much closer to the correct value.

Another detail to consider is that in addition to the correlation between femur size and height being much stronger than between weight and height, this correlation is preserved at the highest levels, so that the largest people in the world also have larger femurs, bigger arms and bigger feet. Therefore, the measurement of these body parts remains effective in estimating the correct height of people at all levels, from the average population to the tallest people in the world.

Likewise, the use of items with the properties of the Sigma Test questions, closely related to the cognitive processes that represent intelligence, covering a wide variety of cognitive characteristics and skill levels, provides a much more accurate and realistic estimate for intelligence.

There are also disadvantages to the Sigma Test, which produces less fair results if it is applied to rural groups or groups with a level of education far below the Middle School grade. But I don't see much need to create tests aimed at this audience, because there are already good tests for that, including Logima Stricta and some of the excellent tests by Iakovos

Koukas and YoungHoon Kim. So my focus is on trying to fill a gap that has existed since the early days of IQ tests, which is trying to correctly measure the intellectual level in the higher strata. The Binet tests were able to measure correctly up to about 135, then the Langdon and Hoeflin tests were able to correctly measure up to about 170. The Sigma Test Extended aims to realistically and accurately measure above 190 and perhaps above 200.

As already mentioned, Hoeflin tests pioneered the correct measurement of IQ at levels far above the limits of traditional IQ tests, but as there was no proper method for calculating the corresponding percentiles, norms were calculated using the methods available to standardization, resulting in skewed estimates, especially near the ceiling.

The “correct” ceiling for Mega Test, based on data that was available on the Miyaguchi website and using the same standardization method as the Sigma Test 2003 standard is about 186, very close to the nominal ceiling of 190+ (~193) which was adopted by Hoeflin. The ceiling calculated by Grady Towers was 202. Bob Seitz also made an attempt to establish a new norm that would fit the correct levels of rarity, and he came up with around 170, very close to the rarity norm I found in 2003 for the ceiling of the Mega Test (168.5).

This divergence between the results obtained by Towers and by Seitz already signalled a disparity between the true rarities and the rarities obtained based on the hypothesis that the scores were normally distributed. By the late 1990s, the problem was well established: the actual rarity did not agree with the IQ scores measured in the tests. But the solution to this was not yet clear.

The nominal IQ score does not present major problems. The Mega Test ceiling presents an error of 7 points, which is tolerable and for lower scores the error is smaller and smaller. However, the corresponding percentile is very different from the correct one. The theoretical level of rarity for IQ=193, assuming the distribution of scores were perfectly adherent to a Gaussian, would be one in 325,000,000, but the correct level of rarity, given the true shape of the distribution of scores, is about one in 435,000. If you consider the correct ceiling to be 186 instead of 193, then the rarity level is one in 130,000. So the true level of rarity differs from the level indicated in the standard by a factor greater than 2000. A huge mistake. The data on Miyaguchi's website is incomplete, so the 186 IQ value indicated as "correct" for the ceiling may be slightly

different, perhaps close to 190. However, the percentile distortions are too large to be explained by some bias present in the data available on the Miyaguchi website. This is a serious methodological error that has been systematically repeated for decades.

Hoeflin's and Langdon's tests differ in some important points. Langdon's tests, as well as some tests by Cooijmans, Robert Lato and others, followed a similar line to the Raven's tests (figure series), while Hoeflin's tests followed a more similar line to that of Binet and Wechsler (diversified).

At this point it is worth recapping how the first attempts to measure intelligence were. I won't be redundant with the Historical Summary article on Intelligence Tests; Anyone interested can access it for more details. Here I will give a much briefer summary focused on the topics we are covering.

The Binet test represents an important advance in the evolution of cognitive tests. After the attempts by Francis Galton (1884) and James Cattell (1890) to measure intelligence proved unsuccessful, Alfred Binet (1904) tried to approach the problem from a different perspective. Galton and Cattell believed that it would be possible to measure the elementary components of intelligence, while Binet decided to measure the combined result of these components in synergistic action, obtaining much more promising results, making it possible to identify mild deficiencies and some aptitudes. This suggests that the combined use of questions that require different types of thinking working together in solving complex problems may work better than questions that try to measure each type of thinking separately. The STE follows a similar line, betting on the measure of a combined set of skills to solve complex problems, with the differential of including questions that reach levels much higher of difficulty than the Stanford-Binet ceiling (140), reaching and surpassing 190 and even 200.

While the Binet test is one of the best for correctly measuring IQs between 70 and 130, it fails badly by continuing to produce scores far above what it is actually capable of measuring. The same problem is present in the tests by Wechsler, the Cattell Culture Fair and others. The extrapolated Stanford-Binet nominal ceiling reached 225, but the actual ceiling never went above 140. I'm not saying the IQ 140 is low; to say so would be a gross error.

What I am saying is that a test with a ceiling of 140 would be like a clinical ruler to measure height with a maximum limit of 1.87 m. The 1.87 m threshold is not low, but it is also not enough to serve a considerable fraction of the population.

In fact, the problem with the Stanford-Binet standard is worse than that. It is as if it were a ruler with a nominal ceiling of 2.15 m, but that started to get crooked and with the 1 cm intervals getting smaller and smaller for heights above 1.80 m. On this ruler, the size of 1 cm in the range of 1.50 m to 1.80 m is approximately uniform, but above 1.80 m, each 1 cm interval becomes increasingly narrow. When it gets close to 2.15 m, every 1 cm is so short that it is less than half a 1 cm in the region between 1.70 m and 1.80 m. With a ruler skewed at this level, measurements are only reasonably reliable up to 1.80 m or, with a little optimism, up to 1.85 m.

The descriptive image below shows an example of a distorted (non-gap) scale where up to a certain point (the first 10) the intervals are uniform, but then they get increasingly narrower:

Using a ruler that had each unit spaced this way would obviously produce big errors. This is basically what happens with almost all IQ tests, including the Sigma Test before 2003, because although this method for standardization had already been devised and published in 2000, first Sigma Test standard had to be determined by comparison with other tests already standardized by existing methods and the number of tests in Sigma Test in 2000 was still not enough for adequate standardization using the new method. Therefore, the first standard applying this method was in 2003.

Therefore, all traditional IQ tests and all high range IQ tests had this distortion up to 2003 and this distortion causes several problems.

If there were such an error in a ruler or a tape measure, where one part of the ruler was correct and another was distorted, it would be easy to correct it by using the “healthy” part to compare side by side with the anomalous part, and then repair the error. But on an IQ scale this is much more difficult and complex to correct. On a crooked ruler with a distorted scale, the problem is noticed visually, but the distortions in the scale of an IQ test are invisible and can only be detected with an adequate statistical treatment. In addition to the detection not being trivial, the correction is even more difficult because it is necessary to

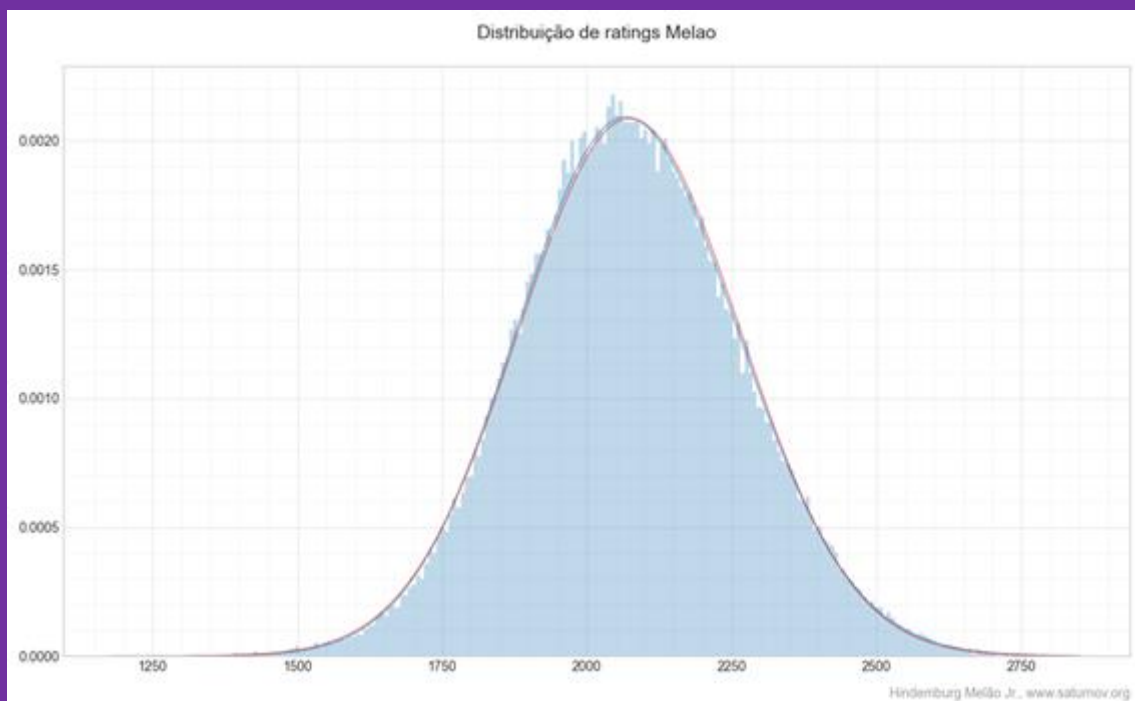
establish a reference scale that is invariant. Binet tried to do this using ages and it was an interesting initial idea, but it was quickly found that it didn't produce an interval scale. To produce a ratio scale is even more difficult.

The solution adopted in the 2003 Sigma Test standard manages to generate a proportion scale taking advantage of Bill McGaugh's idea of converting Chess rating into IQ. However, FIDE rating, USCF rating and especially online ratings are highly distorted, in addition to the inflationary effect.

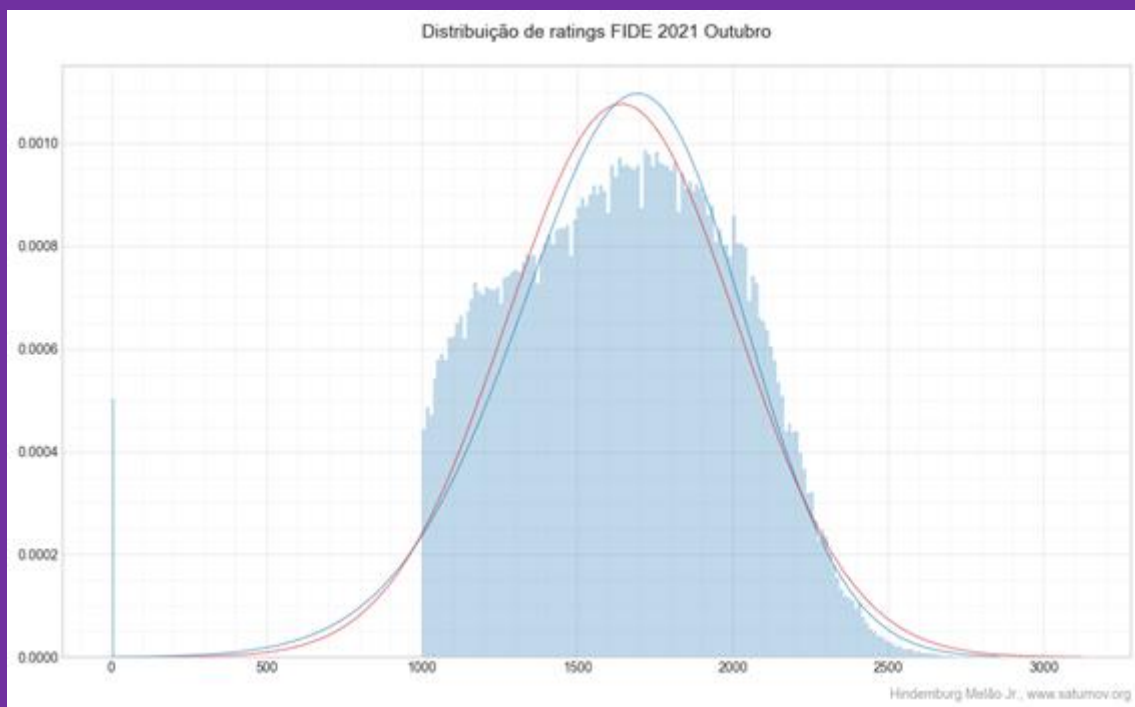
Therefore, before it was necessary to establish an appropriate rating scale from which a potential ratio scale would be established and then this could be applied to the IQ. It is clear that Bill McGaugh's formula could not be used in its original form either, just because it was calculated based on the FIDE rating, but it was an important inspiration.

The rating calculation method is described in this book:

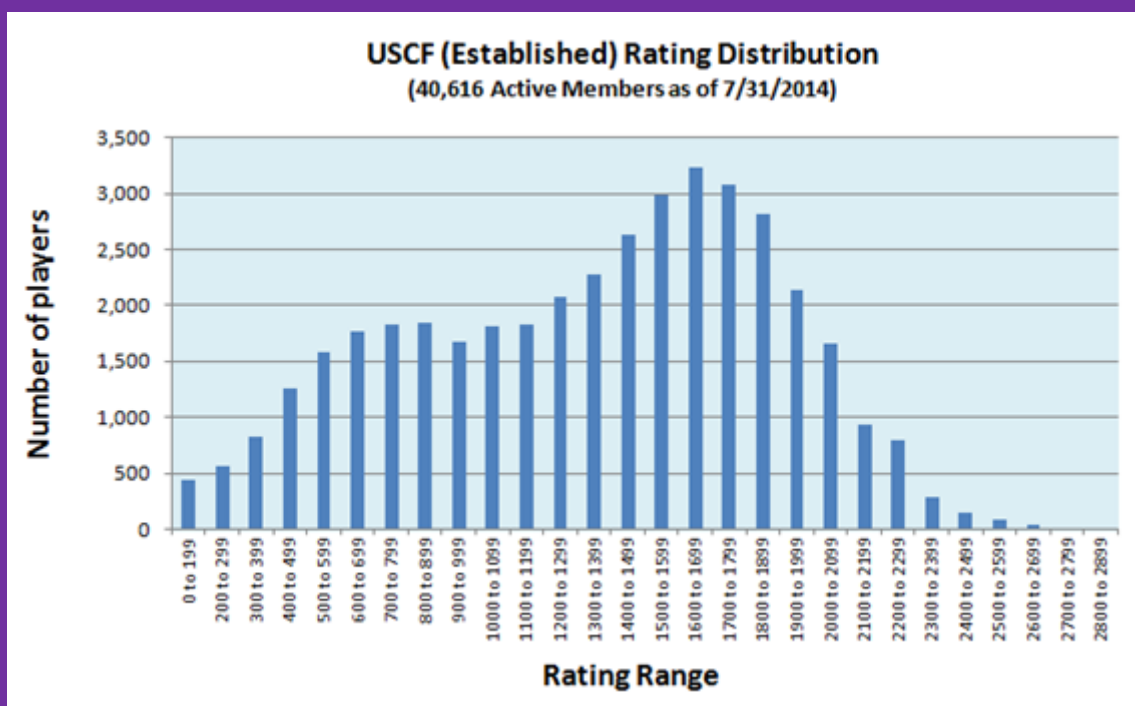
<https://www.saturnov.org/livro/rating> and the distribution of scores using this method is this:



By way of comparison, the distribution of the FIDE ratings is as follows:



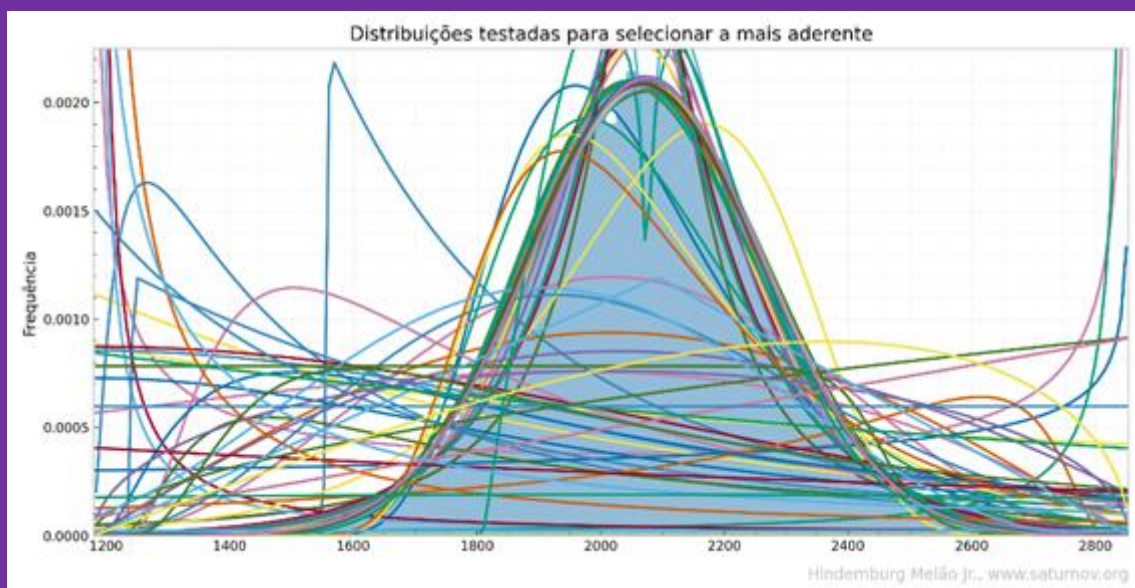
And the distribution of USCF ratings is this;



Converting FIDE ratings with this distribution into IQ scores or converting USCF ratings into IQ, it would require some acrobatics, but even then there would be major distortions. That's why it was first necessary to recalculate the ratings, and in this process, I've already taken the opportunity to improve the traditional method, in addition to introducing a new one based on the quality of the bids.

Furthermore, the two distributions, the IQ and the rating were fitted to suitable curves, rather than using the forced assumption of a Gaussian distribution. Altogether, 91 continuous and 17 discrete distributions were tested to verify which one is the most appropriate to represent this data set. In the preliminary selection, Kolmogorov-Smirnov was used to assess the goodness of fit. In a later step, Anderson-Darling and a chi-square comparison were used with a fitting model of a neural network. In cases where the discrete distribution made the comparison impossible because it contained the n-factorial function, this was replaced by Gamma (n+1).

The following graph shows a summary of all tested curves:



The distributions tried were these:

Alfa	Laplace assimétrica
Anglit	Laplaciana Discreta
Arcseno	Lévy
Bernoulli	Lévy assimétrica levogira
Beta	Logarítmica (série logarítmica, série)
Beta Prime	Log-Gama
Beta-Binomial	Logística (Sech-quadrado)
Beta-Kappa de Mielke	Logística Generalizada
Binomial	Log-Laplace (Log Dupla Exponencial)
Binomial Negativa	Log-Normal (Cobb-Douglass)
Birnbaum-Saunders	Log-Uniforme
Boltzmann (Planck truncado)	Lomax (segundo tipo de Pareto)
Bradford	Maxwell
Burr	Nakagami
Burr12	Normal
Cauchy	Normal empacotada
Cauchy assimétrica	Normal Generalizada
Cauchy empacotada	Normal Inversa (Gaussiana Inversa)
Cauchy Envelopada	Normal Truncada
Chi	Pareto
Cosseno	Pareto Generalizada
Erlang	Planck (exponencial discreta)
Exponencial	Poisson
Exponencial Generalizada	Potência exponencial
Exponencial Truncada	Potência lognormal
F descentralizada	Potência Normal
Fisk (Log Logística)	Qui-quadrado
F-ratio (ou F)	Qui-quadrado descentralizada
Função de Potência	R-
Gama	Rayleigh
Gama dupla	Rice
Gama Generalizada	Secante Hiperbólica
Gama Invertida	Semi-Cauchy
Gauss Hipergeométrica	Semiciircular
Gaussiana Inversa Generalizada	Semi-Logística
Gaussiana Inversa Normal	Semi-logística Generalizada
Gaussiana Inversa Recíproca	Semi-Normal
Geométrica	t de Student
Gilbrat	t descentralizada
Gompertz (Gumbel truncado)	Trapezoidal
Gumbel (LogWeibull, Fisher-Tippetts, Valor Extremo Tipo I)	Triangular
Gumbel assimétrica levogira (para estatística de mínima ordem)	Tukey-Lambda
Hiperbólica generalizada	Uniforme
Hipergeométrica	Uniforme (randint) Discreta
Hipergeométrica descentralizada de Fisher	Valor extremo generalizada
Hipergeométrica descentralizada de Wallenius	Von Mises
Hipergeométrica Negativa	Wald
Intervalo Studentizado	Weibull de Máximo Valor Extremo
Johnson SB	Weibull de Mínimo Valor Extremo
Johnson SU	Weibull dupla
KS-bilateral	Weibull exponenciada
KS-bilateral para grandes amostras	Weibull Invertida
KS-unilateral	Yule-Simon
Laplace (Double Exponential, Bilateral Exponential)	Zipf (Zeta)
	Zipfian

After determining the most suitable curves to represent the distribution of the IQs and the most suitable for the rating distribution, some further adjustments were made to correct for the self-selection that varies with the rating band and with the IQ band and does not vary in the same proportion. More details on the procedures are described in volumes I and II of the book: “[CHESS - 2022 Best Players in History, Two New Rating Systems](#)”.

By these means, it was possible to slightly refine the values of some parameters used in the standardization of the Sigma Test, highlighting some of the conceptual and quantitative advantages that were already present in the 2003 standard.

The result is that IQ measured by ST or STE generates scores on practically the same scale as other high range IQ tests, i.e., a person with a score of 180 on the Mega Test should score around 180 on the STE, while two other people with a score of 150 and 120 on Mega Test should also get around 150 and 120 on STE respectively. For scores above 170 and especially above 180, ST generates slightly lower (and more correct, less inflated) scores than other tests. For scores below 170, there is practically no difference.

The ST and STE percentiles are realistic, so they are much lower than those generated by the other tests. Therefore, if your goal is a certificate with too many nines to hang on the wall, unfortunately Sigma Test won't be able to help you. But if you are sincerely curious to know your real intellectual capacity, based on a correctly standardized scale and with an adequate level of difficulty, if you want to know the true percentile in which you are in relation to the world population, among other information (\*), STE is exactly what you are looking for.

(\* A supplementary information that cannot be calculated based on other standards is the “proportion of potential”. If you are interested in knowing exactly what this means, please read this article: <https://www.sigmasociety.net/scalesqi>.

In summary, the ratio of potential determines the number of people with IQ=100, working together, to achieve the same level of “intellectual output” as a person with IQ=x. This calculation requires that the scores are on a proportion scale so that the values are not distorted).

Another detail that I would like to comment on is the difference between intrinsically difficult questions and very difficult questions.

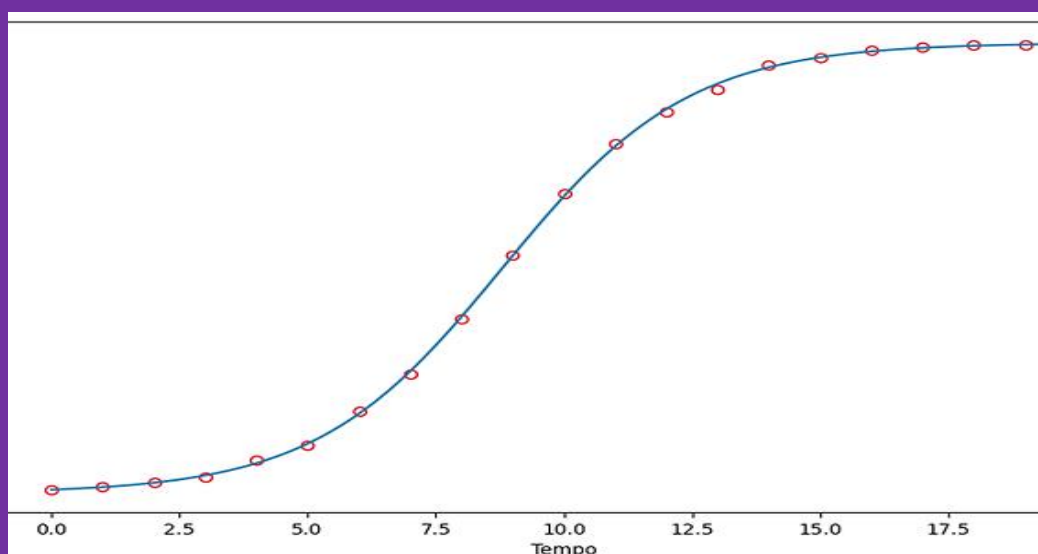
Questions that are just laborious, but not really difficult, measure perseverance, persistence, patience and other attributes rather than actually measuring intelligence. When testing with no time limit is applied, it is necessary to take some additional care, to prevent a person from having a higher score just by dedicating larger time.

For each problem, there is a curve that determines the probability of success as a function of the time devoted to it and this curve reaches an asymptotic limit that means that after a certain limit, dedicating more time does not contribute to increasing the probability of success in a proportion that justify the greater amount of time invested.

When this curve is similar to a straight line, it indicates that the problem is inappropriate because it predominantly depends on mechanical effort and work, but if the curve is like a logistic one, it indicates that the problem predominantly depends on intellectual capacity. That's because in the most difficult problems, if the person solves 5% of the problem in 5 minutes, he will solve approximately 10% in 10 minutes, 50% in 50 minutes and so on.

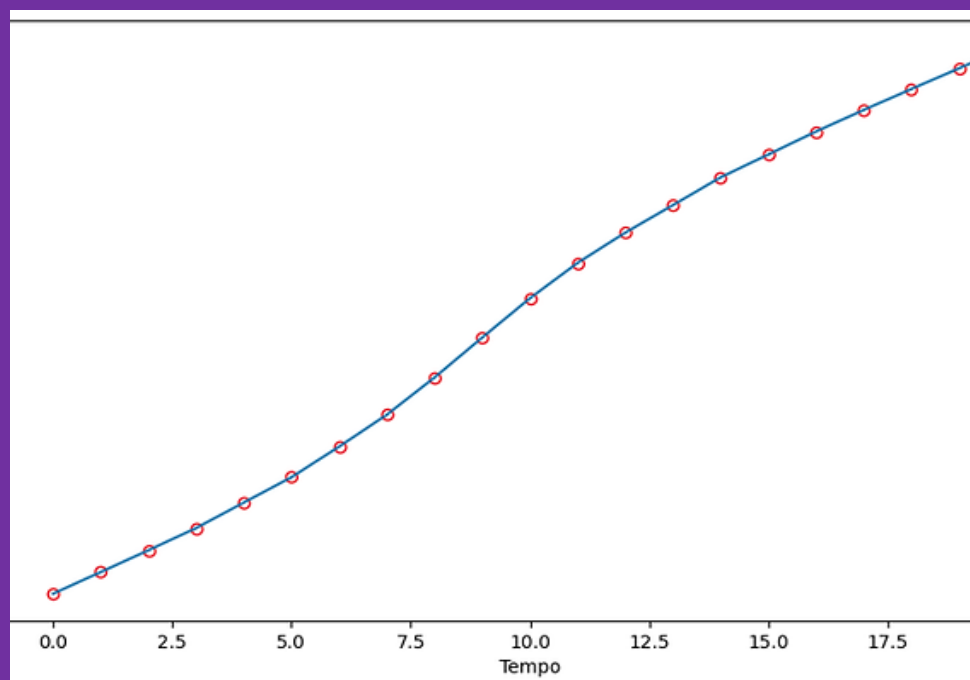
These are problems characterized by repetitive tasks, where repeating 10 times implies going twice as far as repeating 5 times. But in cases of predominantly intellectual problems, it is different. In the first 10% to 20% of the time, the person makes almost no progress, just trying to understand and outline a solution strategy. Then the resolution begins and at this stage, advances occur quickly with 50% to 70% of the central region of the logistic curve.

As you progress in the resolution, getting closer to the definitive answer, you realize that there are small details that can still improve the answer. But these details require more and more time and are smaller and smaller and contribute less and less to the result. The curve below represents this situation:



It reaches a point where the person concludes that it doesn't make sense to spend more time to keep improving the response, because they would need to dedicate a lot of time to producing small increments.

On some of the great problems of science this takes centuries. Newton's solution, for example, was later improved by Einstein and in the future, it will be improved again. The atomic model has also experienced several stages of evolution and this happens in different situations in which one is dealing with a difficult and predominantly intellectual problem. If it is a laborious problem, where the resolution is more repetitive and mechanical, the graph that determines the percentage resolved as a function of time is more similar to the one below, where the time devoted to the resolution grows almost linearly with the percentage resolved.



The type of problems desirable for a good intelligence test is the one that presents the behaviour of graph 1. And all the items in the STE are designed with this objective in mind.

Graph 1 is a simplification, because many times there can be several stagnations in the resolution process. The person advances quickly, until he encounters some difficulty that impedes the advance until a strategy

is developed to solve it. Then it goes back to solving the problem, then it hits another obstacle, etc. Several of the more difficult problems in STE have this characteristic, where the person needs to have more than one insight during the solving process in order to be able to keep moving forward.

Since the time that Langdon created the first high range IQ test until the mid-1990s, there were less than half a dozen such tests. But from the 1990s onwards, several others were created and currently there are hundreds. I don't know all the high range tests that currently exist, so I can't generalize, but I can say that many of these tests are made up of difficult questions, but they are not really difficult. This is common in tests with a series of numbers or figures, where if a person spends enough time, testing many different alternatives in an organized way, at some point he will discover the underlying pattern.

Of course the use of some heuristics can speed up this process, but they are very basic heuristics and after a person trains to solve many tests of this type, he ends up becoming “specialized”. There are also issues that just depend on the person having a vast vocabulary to solve an analogy, without there being any intrinsic difficulty in the analogy itself. The same applies to association problems. Certainly ST and STE are not immune and also have their own flaws and limitations, but as far as possible we have tried to avoid some of the problems listed here.

Compared to the best traditional IQ tests, such as Stanford-Binet and Wechsler, the high range IQ tests adequately solve the problem of measuring correctly at the highest levels of difficulty, reaching 170 or even 180 and in this respect the ST did not bring great contributions, except perhaps for pushing the ceiling up a little as far as you can measure correctly. But there are other aspects in which the ST made relevant contributions:

- Generation of scores on a ratio scale
- Correct determination of percentiles and rarity levels
- Unprecedented determination of proportions of intellectual production potential
- Adequacy of different cognitive processes to the skill level measured
- Other possible advantages:  
<https://www.sigmasociety.net/escalasqi>

Mothers and fathers often find their kids the most beautiful in the world, so it's possible that my opinion of ST and STE is skewed. So it's best to rely on the opinions of other people who have been tested with Sigma Test and have given their testimonials. A list of these opinions can be accessed here: <https://www.sigmasociety.net/depoimentos>. So, although maybe my opinion is biased, ST and STE were built thinking about solving some of the weaknesses (from my point of view) that are present in other tests and I believe that the ST and STE are the psychometric instruments that best meet my criteria for correctly measuring intellectual level at the highest levels. Some other deeply talented people would agree with this opinion, others might not. This space is open to receiving new positive and negative opinions about ST and STE.

For these reasons, in Sigma Society, as the cut-off is 132, within the range in which other tests also work well, there was no problem in accepting other tests as criteria for admission, because the distortion is not great for scores up to this level. In Sigma III there were some doubts about whether to accept other tests and it was decided to initially keep only the ST with the possibility of accepting other tests later as well. As of Sigma IV, only the ST itself was accepted. For these same reasons, STE will be accepted as the standard exam for admission to **Sigma VII and the Deliberative Council in Immortal Society**. It will also be used as criteria for admission to Sigma VI, Sigma V, Unicorn, Platinum, Sigma IV, Immortal Society, Sigma III and Sigma Society.

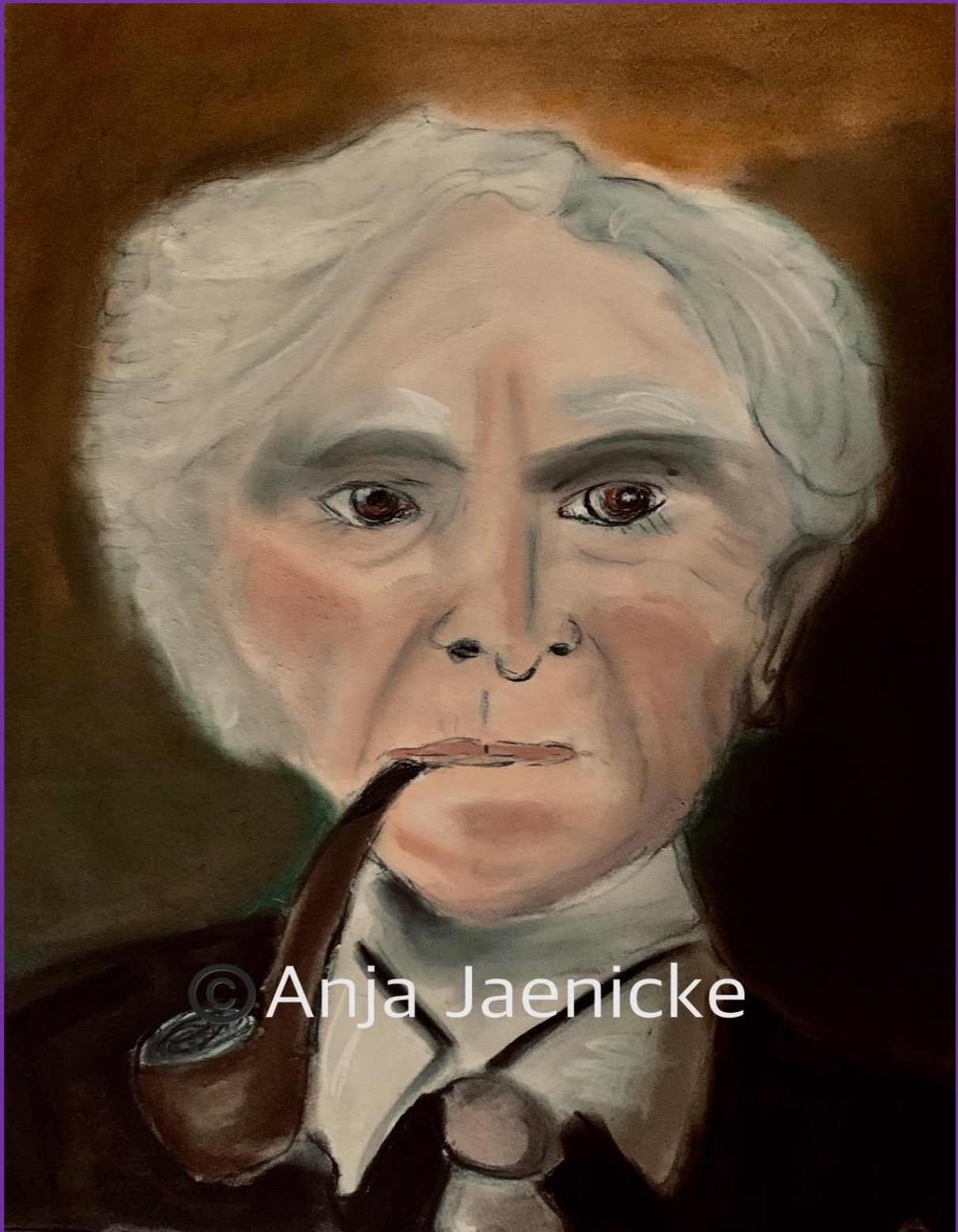
Having made these clarifications, we hope that everyone who accepts this challenge will enjoy the pleasant intellectual adventure offered by the STE questions and obtain fair and accurate results.

After taking the Sigma Test Extended, the person receives a certificate from the Sigma Test Extended and a certificate based exclusively on the Sigma Test questions, since the ST is a subtest of STE. Although question 36 of the STE was not included, as there was no correct answer in this question, it does not interfere with the norm.

**Editorial Note:** For those wishing to do this test, it can be accessed via searching for the following:

[Sigma Test Extended 2022 | SIGMA SOCIETY](#)

ART BY ANJA JAENICKE



AN OIL PORTRAIT OF BERTRAND RUSSELL



PORTRAIT OF QUEEN ELIZABETH II

# ART BY ARNOLD TOULON



"BUBBELICIOUS "

Water falls as rain,  
Pregnant drops  
surrounded by air.  
Catch one on your tongue.

Water flows heavy as a river.  
Feeding all life.  
Bringing smiles to mango trees and hydrangeas,  
Slurped by birds and cougars.  
Bearing logs and Rolling boulders

Invincibly evaporating back to sky and cloud-  
Unseen.

Water becomes bubbles,  
surrounded by and surrounding, air.

Little glass balls you can't bounce.  
Can't steal.  
Can't bag and carry home;  
or give as a gift all wrapped in a box with a pretty gold bow, a card with a  
handwritten poem and a little red heart.

Bubbles carry dreams, and secrets,  
Fascinating babes and kids.  
Awakening memories in young and old.  
Catching light in all its array.

Smiling with gilded glee.

Like planets in orbit,  
Spinning with the universe.

Dying stars.  
Winking one last time.

Reminding us how magical life still is,  
Though wars rage and earth rumbles.

defying gravity for a moment.  
Filling us with moments of awe.  
Taking us away to secret places.

With natures Law  
Conjuring a mini universe,

And then 'the final curtain'

With not much ado.  
Gone in a burst!

Arnold Toulon

26 Sept.2022

St.Lucia.

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**"Giselle"**  
**Conté Sticks**

# Brilliance, Resilience, Perseverance and Wisdom

by

Graham Powell

'Brilliance' is considered the possession of a great talent, or the use of exceptional intelligence. Brilliance is also 'an intense brightness of light'.

'Resilience', on the other hand, is the capacity of someone to recover quickly from difficulties. With reference to a substance, 'resilience' is the ability of a substance to return to its original shape, its 'elasticity'. As such, the force (or pressure) that you put onto a person, or a thing, makes for a test of resilience.

Associated with brilliance and resilience are perseverance and wisdom. Too much 'perseverance', however, and you'll get no great benefits. As the saying goes:

"It's pointless flogging a dead horse."

Conversely: "You can lead a horse to water, but you can't make it drink."

What you can do, however, is put a little salt in its muzzle.

Considering these four aspects to our work activities, it is largely a case of balancing them. The word 'salary' comes

from the Roman soldiers' payment of salt ('sale'), which they received in due recompense for their labours. As modern motivational theory has revealed, however, just paying more and more 'salt' will have people 'drinking', but in preference to doing other things.

To cover for the people spending time drinking, the other people in the team will be put under pressure to reach the desired goals. The team will 'lose shape'. It will have to be more resilient if it is to have any chance of returning to how it should be. At times like this, a boss will whip those people, but a leader will get in amongst them, help them move forward towards their goals.

Of course, a brilliant idea may change the circumstances for the team and make it able to return to its original shape: a lighter load, some better equipment - some shoes that have a better grip, for example. Often, though, the 'brilliance' will be merely the light that helps the team see further and the realisation that, fundamentally, matters must change so that the team becomes less dependent on resilience. This realisation is, of course, wisdom.

So, be wise.

Keep things in balance.

Enjoy the ride.

**Interview by Scott Douglas Jacobsen**  
**with Professor Steven Pinker -**  
**Johnstone Family Professor, Psychology,**  
**Harvard University**

**Author(s):** [Scott Douglas Jacobsen](#)

**Publication (Outlet/Website):** Canadian Atheist

**Publication Date (yyyy/mm/dd):** 2020/06/10

**\*Interview conducted on June 9, 2020.\***

In a prior job at Conatus News in the United Kingdom, I conducted an interview with the prominent and respected author and philosopher of science, Dr. Rebecca Newberger Goldstein, who agreed to the interview and made some thoughtful comments about the idea of the “conatus” or the idea of an “effort or willing of something in order to improve itself.” This came with a context. She understood the intellectual environs and inspiration of the “conatus” coming from deceased philosopher Baruch Spinoza and others. Goldstein has a sentiment towards Spinoza, akin to Bertrand Russell’s when he said, “Spinoza is the noblest and most lovable of the great philosophers. Intellectually, some others have surpassed him, but ethically he is supreme.” As serendipity presents itself, sometimes, one can get the opportunity to interview an individual of similar intellectual calibre within many of the same philosophical traditions and ethical outlooks. Serendipity came through financial and social media assistance on the part of Professor Pinker towards an initiative to combat a particular form of superstition and supernatural belief in Africa. As it so happens, also, Pinker and Goldstein have been married since 2007. Professor Pinker is the Johnstone Family Professor of Psychology at Harvard University. His most recent book is *Enlightenment Now: The Case for Reason, Science, Humanism, and Progress*. With great pleasure, I present the interview with Professor Pinker from yesterday here, where we discuss current events in the United States in a larger non-pollyannaish context, journalism, cognitive biases, supernatural beliefs, creationism, global democratic movements, the language faculty, sex and gender differences, and Humanism.

**Scott Douglas Jacobsen:** Let's start from the top with some of the current events in the United States, and some of the things happening in the world as well, if we look at some of the more current events in the United States over the last two weeks, it can give the impression of things being quite negative, in terms of the apparent destruction of property and violence against some citizens and authorities. Your recent work has been based around cataloguing long-term trends happening around the world, including in the United States. One of the caveats that you tend to give is that it is not pollyannaish in its perspective as well. So, what would be a broader perspective, even in the midst of some of the socio-political upheaval happening in the United States now?

**Professor Steven Pinker:** The overall levels of violence, including police shootings of civilians, were worse in the past. It's unfortunate that this has been a long-simmering problem, particularly in the United States, where police kill far too many civilians. We should be grateful. Finally, this problem is going to be addressed. It is unavoidable. However, our impression of the present moment compared to other times should not be compared to the news of the day because the news is a highly non-random sample of the worse things happening on the planet on any given day. They can give a highly misleading picture of the trajectory of the world. The things that go right tend to be non-newsworthy. The country is not at war. That's not news.

**Jacobsen:** [Laughing].

**Pinker:** Things that tend to get better creep up a few percentage points per year, which can then compound and transform the planet. However, if they don't take place on a Thursday in February, then we will never read about them. While not denying terrible things can happen, indeed, an acknowledgement of human progress is not the same as the belief that nothing bad ever happens or things get better by themselves. We're apt to underestimate progress when our source of information about the world comes through the news.

**Jacobsen:** Does this make a general statement about journalism and reportage, even in prestigious Western publications such as *The New York Times*, coming to the phrase, "If it bleeds, it leads"?

**Pinker:** Indeed, this is not to cast aspersions on the essential role of the mainstream media in our understanding of the world because it is the

reporters who have the commitment to disinterested search of information. It is the institutions of fact-checking and editorial responsibility that are the only window to the world. It is not an accusation of any sinister, or even commercial, motive, but, rather, a kind of innumeracy. A kind of failure to appreciate the distortions coming about by sampling. In particular, the sample of the worst things taking place anywhere on the planet. The insensitivity to time scales. Something can go wrong very quickly. Something going right tends to be protracted over time. Also, a part of our psychology is unduly affected by the images, anecdotes, and narratives. Cognitive psychologists call this the [Availability Bias/Heuristic](#). Events available in memory - because of vividness, recency, and concreteness - will tend to distort estimates of risk likelihood and probability.

**Jacobsen:** Even if we take the research of distinguished professors like [Elizabeth Loftus at the University of California, Irvine](#), there is a robust phenomenon of [False Memories and Rich False Memories](#). If we are taking social activism and political events over the scale of decades, does this further compound the cognitive biases with information recalled and observed and brought to the news?

**Pinker:** It is an additional source of distortion of our perception of the world. Above and beyond the fact, we are overly influenced by events and narratives. There is the problem: we don't particularly remember them accurately, as Elizabeth Loftus's work has shown. We tend to tidy up the details of our memories. So, they fit a coherent narrative. Our memories can be edited retrospectively by the way we think about them, the occasions of recollection. After we recall a memory, the filing back of the memory can be distorting once more. It is an additional source of cognitive impairment. All educated people should be aware of it, including journalists.

**Jacobsen:** Are there particular types of biases coming forward in more established mainstream institutional news organizations compared to more independent journalism?

**Pinker:** There *can* be. Overall, large journalistic institutions can afford editors and fact-checkers, and reporters to be sent out to remote and inhospitable locations. Plus, they have a reputation to defend. So, if they are caught on record with egregious distortions, then that will subtract from the reputation. There are some reasons for the big institutions needing to be more accurate. On the other hand, there are

some reasons for reduced accuracy`. If there is a particular worldview, ideology, or mindset, often, it is hard to recognize them in yourself. There's a quote, which I love, from the economist Joan Robinson, "Ideology is like breath. You never smell your own."

**Jacobsen:** [Laughing].

**Pinker:** [Laughing] If an institution, including a journalistic institution, is captured by a political faction, whether on the left or the right, we know from a body of psychological research of a third type of distortion. Namely, the desire to filter evidence, so it reinforces beliefs held already by you. With [Confirmation Bias](#), we tend to subscribe to themes and commentaries affirming beliefs rather than challenging them. We tend to be hardnosed methodological purists when it comes to research contradicting personal beliefs. Whereas, we tend to give an easy pass when it comes to research that confirms them. Indeed, political biases, almost a tribalism where the tribes are not ethnographic units or sports teams, are ideologies on the left or the right. They can be a major source of misunderstanding. Again, there is a *biased* bias. Where everyone is willing to admit this is true about the *other* side, *their* side is seen as completely objective and clear-eyed. There is reason to believe this is not true. In fact, we can find distortions in the factual understanding on both the left and the right.

**Jacobsen:** In the United States more so than Canada, and the United Kingdom much less so than Canada, there are a lot of supernatural beliefs across the board, whether devils, ghosts, all sorts of things. How do these then creep into some of the perceptions of a lot of the general public, even if they are reading decent, reliable, and validated reportage in the news?

**Pinker:** Yes, I am not aware of data comparing countries. What you say doesn't surprise me, in a lot of measures of wellbeing and rationality, the United States punches well below its wealth.

**Jacobsen:** [Laughing].

**Pinker:** It is among the world's wealthiest countries. It ought to be the healthiest, happiest, and the smartest in the world. It does *okay*.

**Jacobsen:** [Laughing].

**Pinker:** In many ways, it trails Canada and other affluent democracies. I wouldn't be surprised if supernatural belief is one. Certainly, religious

belief is one. Americans are more religious than any affluent democracy. The United States is an outlier. There are beliefs, which we don't categorize as religion. They are supernatural or New Age. They are surprisingly prevalent in a lot of countries. Why would this be more the case in the United States assuming the science shows this? The scientific and pseudoscientific beliefs do not come from a first-hand knowledge of the relevant scientific literatures. Frankly, I am not enough of a population geneticist, climate scientist, or neuroscientist to defend all personal beliefs about the brain, the soul, the climate, and evolution. However, I know the way science works. They are the tribe for me. I know the intellectual ecosystem. It is peer review. It is open debate. If someone were to come up with a really good refutation of some dogma, then this would be a good career move because the upstart is often rewarded. I tend to believe: If something is in the scientific mainstream, then it is, typically, a better source of objective understanding than some random thing forwarded from Twitter or email.

On the other hand, there are people without this belief. They treat the scientific consensus, the consensus of institutions such as government and academia and hospitals and mainstream media, as another opinion. No more reliable than something retweeted. Tests of scientific knowledge when it comes to climate show people who accept the scientific consensus are not necessarily more informed than others who do not accept it. For those who accept manmade climate change, they think this has something to do with plastic straws and holes in the ozone. Climate change dealing with a sense of greenness. Their own not-so scientific beliefs happen to align with the scientific consensus because they tend to follow, more or less, the consensus. However, for people alienated from mainstream institutions, they have no reason to take this any more seriously than pronouncements of President Donald Trump. In the United States, assuming a greater degree of belief in the paranormal, pseudoscience, and so on, in addition to the well-documented level of religious belief, it may lead to greater alienation from mainstream institutions, which tend to be more trusted in other wealthy democracies, I assume.

**Jacobsen:** *Skeptical Inquirer* published a good article, recently. It had to do with Nobel Prize winners, *some*, who held not exactly the most robustly validated positions. In other words, it was a comparison between individuals who would very likely score very high on general

intelligence while having certain forms of irrational beliefs. It is not directly related, but it is along the same line of thinking of some of the research into people who score very high on intelligence tests, general intelligence tests, having particular kinds of tendencies in irrational thinking. Is general intelligence a factor here when it comes to pseudoscientific beliefs, supernatural beliefs, and various forms of fundamentalist religious beliefs?

Pinker: It is a factor, but it is like anything in psychology or social science. There are correlations. They are significant, but well below 0.10.

Jacobsen: [Laughing] Right.

Pinker: [Laughing] People who score higher on IQ tests. They are more likely to be atheists. Also, they are more likely to get education, less likely to fall prey to fallacies of statistical reasoning. However, there are no shortage of exceptions to the correlations.

Jacobsen: In the United States, there has been a longstanding effort to try to combat the perceived encroachment of an atheist worldview or a secular frame of mind, especially in regard to evolution via natural selection. So, organizations like the Discovery Institute. Philip Johnson died last year in November. He is the legal mind of the orientation. The other two are Michael Behe and William Dembski for the molecular biology and information theoretic foundations of Intelligent Design creationism, respectively. They have been working for decades to try to impose creationist thought in the education system by skipping all manner of regular modern scientific procedure with peer review, debate, experiment, etc. Instead, they attempted to go straight to the high school system in the textbooks. So, when it comes to some, not simply errors in reasoning or correlations between general intelligence and certain forms of supernatural and pseudoscientific beliefs, what about these direct efforts to try to reduce the level of correct scientific and empirical theories, most substantiated theories, of the world seen today?

Pinker: Indeed, though, the Discovery Institute and the smarter creationists have been *clever at insinuating* what are disguised religious beliefs in the guise of scientific controversy. On two occasions, my hometown paper, the *Boston Globe*, one of the prestigious papers in the United States, published op-eds by people from the Discovery Institute

trying to sew confusion about evolution. I complained in both instances to the editorial page. The editor was tricked by a fairly clever campaign to make this seem as if it was in the realm of ongoing scientific controversy. In that, it was a secular argument for Intelligent Design. Whereas, as the Kitzmiller case in Dover in 2005 established, there's no question: This is disguised religious propaganda. Knowing the separation of church and state, at least in the United States, they realize the need to work around it. They were given a stunning defeat in 2005, but, certainly, they have not given up.

**Jacobsen:** Some of the earliest work was on an innate capacity of language. When it comes to a lot of the innate capacities, I, often, think of the cognitive biases, which appear, more or less, hardwired in how human beings evolved. When it comes to some of the attempts to educate along the lines of critical thinking, science, and empiricism, general rationality, even if there was pervasive critical thinking education, science education, logical reasoning education, and so on, from elementary school through to the end of high school, would there be an asymptote at some level in terms of the level of rationality to inculcate in the society, including among the wealthiest?

**Pinker:** Humans, certainly, are a rational species. In that, we have taken over the planet, even long before the Industrial Revolution and the age of colonization. From a homeland in Africa, humans outsmarted plants and animals in a variety of ecosystems because they could develop mental models about the ways the world worked. They were not so superstitious to not know when it could get cooler, how to track down an animal, and how to detoxify a plant. We have an innate capacity for reason. It seems rooted in the physical world, the concrete world, or the cause-and-effect arrows determining our survival. When it comes to history before we were born, when it comes to parts of the world where we don't live, when it comes to things too small to see, or places too far away to live, we are susceptible to myths and fairytales. Probably, it's because most of the history of the species existed before the era of science, statistics, and modern education. It didn't matter much. On the creation of the cosmos, you could believe anything.

**Jacobsen:** [Laughing].

**Pinker:** A lot of beliefs were not in the realm of truth and falsity. Our modern attitude states, "We ought to apply this to all of our beliefs."

Rather, we look for narrative appeals of the story and the moral utility. That is, is this good for galvanizing people to do the right things? Whether it is true or false, it a secondary concern for a lot of our beliefs. I think this is true of a lot of religious beliefs. It is not even clear, whether religious beliefs for religious people are deep down believed to be true. In that, this is seen as an important belief to hold, or not, in spite of its truthfulness. I believe our cognitive systems have these two different kinds of belief. Modernity has seen the expansion and encroachment of the factual, scientific, logical, and historical, over the mythological, the narrative, the fable, and the morality tales. However, human nature makes the myth, the narrative, and the fable always pushback. We need, in the education system, political discourse, and journalistic discourse, an affirmation of the idea: some things are true; some things are false. We do not know, at any given time, what they are because we are not omniscient. We are not infallible. We have methods, which steer us on a path to greater truth, including the scientific method. We ought to valorize attempts at objectivity, even when they tug at our moral narratives or moral convictions.

**Jacobsen:** One of the approaches endorsed by you, which, I believe, comes from the late Hans Rosling: “factfulness.” What is factfulness? How does this reorient a lot of the discourses, whether floating in online spaces or some professional circles?

**Pinker:** Yes, I wish I came up with the word “factfulness.”

**Jacobsen:** [Laughing].

**Pinker:** It is an excellent addition to the English language suggested by a native speaker of Swedish, the late Hans Rosling, and his son, Ola Rosling, and daughter-in-law, Anna Rosling Rönnlund. Factfulness is the mindset of basing beliefs on the best vetted facts. In their case, and in mine, e.g., the book [Enlightenment Now](#) coming out shortly before [Factfulness](#) and partly based on Rosling’s data, it is the sense of the arc of history, of the state of the world now, should be driven by the best and most comprehensive data rather than by the headlines. Indeed, Rosling showed, in a number of surveys in [The Ignorance Project](#), most people are out to lunch on knowledge of basic world developments such as people becoming richer or poorer on the whole, the percentage of kids who are vaccinated, the percentage of kids who are educated and literate. The majority of people believe things continue to get worse.

People have not escaped poverty. Most people are illiterate. When in most cases, it is the great majorities.

**Jacobsen:** One of the big metrics, I believe the late Christopher Hitchens noted this in a debate with Tony Blair. The single best metric for the development of society is probably coming under the guise of the phrase: “The empowerment of women.” If women have equal rights on a variety of measures, whether reproductive health rights, economic access, educational access, and so on, the societies tend to be much healthier, and wealthier. What are some other metrics having an overall positive correlation with the health and wealth of a society?

**Pinker:** Yes, I think that is the essential question. To the frustration of social scientists, when you make comparisons across countries, across American states, across time periods, a lot of things get confounded. So, when you search for a cause and effect story, you need to be a really clever statistician or econometrician because countries with more empowered women are healthier, wealthier, more democratic. The questions: Which one is the cause? Which ones are the beneficial effects? The answer may be each of them reinforces each of the others. In countries with greater wealth, they will be less likely to imprison women in the kitchen and the nursery. Yet, when you have 50% of the population to apply their brainpower to the society’s problems, then this will likely make them richer moving forward. Likewise, richer countries tend to be able to afford schools and keep kids out of the fields and the factories. When you have a generation of kids who are better educated, they tend to be more receptive to the empowerment of women. It is an irrefutable idea [Laughing]. The idea of keeping half of the population in a state of oppression doesn’t make sense, when you observe the outcomes of societies empowering women. Other progressive belief systems such as the value of democracy over tyranny, the value of peace over conflict. These tend to correlate with better, more educated populaces.

I think Hitchens is right. In that, the empowerment of women is one driver. Although, it is hard to say, “It is the first driver.” In that, in any given society, if you simply educated girls, and if there were no other changes in health and infrastructure, then the society would improve. Certainly, it is a contributor. One way to think about this. Francis Fukuyama once said the key problem in human progress or human development, “How do we get to Denmark?” In this sense, Denmark is a

lot like many countries. It has poverty. It has crime, but much less. In many ways, you could pick Norway. However, there are many, many better places to live than others. We can see how people vote with their feet. People, literally, want to get to Denmark via immigration there. It gives a benchmark for, at least at present, the highest places to aspire. Ideally, we would get the rest of the world to a state of happiness, health, and education, as Denmark. A lot of things differentiate Denmark from Togo or Bangladesh. Women's empowerment would be one of them.

**Jacobsen:** What about the number of democracies in the world now? What about the strengths of the democracies? Is it fewer or more? Even if we take the total count, how robust are these democracies?

**Pinker:** In the past decade, the world has been more democratic than any other historical period and decade. There has been some backsliding in the past few years. Russia, Turkey, Hungary, and Brazil, for example, have slid back, including the United States and India. However, there is no comparison to the 1970s, when I was in the university system. There were experts predicting democracy would go the way of monarchy. A nice arrangement while it lasted.

**Jacobsen:** [Laughing].

**Pinker:** It is good to remember. Even with the alarming regression in democracy, we are seeing it. It is slight compared to the previous times of the world. Half of Europe was behind the Iron Curtain until 1989, living under totalitarian communistic dictatorships. Most of Latin America was under rightwing or military dictatorships. In East Asia, you had South Korea, Taiwan, and Indonesia under rightwing military dictatorships. All of them more or less democratic today. It is true. You cannot dichotomize the world into democratic and autocratic because a lot of crappy democracies exist. In that, people have the right to vote, but the government manipulates the vote. Either by outright fraud, by penalizing/outlawing opposition parties, by using the government organs as propaganda for the regime in power, by harassing journalists and opposition leaders on trumped up corruption charges, and so on, by dismantling civil society institutions like universities as Hungary did with the Central European University. That's why a number of organizations give countries a grade. Sometimes, it is from minus 10 to plus 10 on an autocracy to a democracy scale.

**Jacobsen:** To the earliest work for you, as far as I know, it was language. You built off a lot of the work by Noam Chomsky or highly inspired by the work of Noam Chomsky. What is language, fundamentally, in terms of the modern research?

**Pinker:** My interests, in fact, were in all of human nature and human behaviour. I worked in visual imagery, auditory perception at McGill University before venturing into language. I did research into behaviour of rats and pigeons while a student at McGill. My first research was on excessive drinking in rats - of water, that is.

**Jacobsen:** [Laughing].

**Pinker:** My interest in language comes from a more general interest in human nature. Language is the most distinctively human trait. Although, it would not have evolved if not for other more distinctively human traits. Zoologically unusual features of *homo sapiens* including technological knowhow, figuring out how to outsmart plants and animals, how to develop tools and technologies, and social cooperation. We are unusual in the degree of social cooperation with members of the species who we are biologically unrelated. Language, it would not have evolved if we were not on speaking terms. Why share information or knowhow, or say anything to the enemy? The fact of the development of recipes, algorithms, and technologies and tools mean an interest in saying something to one another. We do not talk to merely amuse ourselves. In turn, it makes us valuable to other people as sources of information. It makes us more curious about our relations with other individuals. Language helps negotiate partnerships, spread gossip about partnerships to avoid, and so on. The three abilities - language, knowhow, and sociality - co-evolved. My original interest in language came from an interest in baby's acquisition of it. This was a question for Chomsky. He did not study children's language. He set a central theoretical problem in understanding language: How do we develop language in the first place? People need to learn to read, but not to speak.

All human societies have language without the benefit of some central committee with everything planned. The development and acquisition of language is part and parcel of the essence of human nature. For Chomsky, he implied a rich innate structure to language. Obviously, we can't come into the world knowing anything about English, Japanese, Yiddish, or Swahili, but Chomsky proposed an innate universal grammar.

That is, computational machinery optimized for language. Now, it is very hard to pin down what would go into this universal grammar. There is an enormous controversy around it. There is by no means a consensus in the researchers studying language. The challenge of explaining how kids learn language. It led me to being sympathetic to the idea of innate constraints or pre-programming of the possibilities of a language. Kids did not approach language as pure cryptographers trying to decode the probabilistic sequences of one sound after another. They come into the world expecting other people will communicate with them using arbitrary signs arranged by rules. They look for units of sounds. They listen for words. They are sensitive to the ways of combining them. Unless, you have a circuitry programmed to do it. Then kids would flounder around producing sounds approximating language without ever getting the point that a language is a bunch of signals.

**Jacobsen:** When we look at the various facets of human nature, one of the philosophical assumptions for humanists, like you and I, is human nature is fundamentally good. There are outliers among us. However, in general, human nature is fundamentally a good set up. As a philosophical assertion, how supported is this, empirically?

**Pinker:** Yes, I wouldn't put it that way, myself. I stole a phrase from Abraham Lincoln for the title of a book I published, [\*The Better Angels of Our Nature: Why Violence Has Declined\*](#), in 2011. Of course, putting aside the angels, it is a lovely metaphor. As it captures, human nature is complex. It has parts. I would not say, "Humans are fundamentally good." I'd say, "There are subsystems in the human brain, which allows us to be good, e.g., empathy, a moral sense, a capacity for self-control, the power of reason." However, it is not everything in the skull. We can be callous toward others. We can exploit them, whether exploitative labour, in sex, or through property. Some genders more than others have a stronger sense of dominance.

**Jacobsen:** [Laughing].

**Pinker:** We have a thirst for revenge. Sometimes, it is called justice. We can cultivate a sense of sadism. Depending on the social milieu, different parts of human nature can come to the fore. The challenge is setting up the norms, the institutions, the beliefs, and the laws calling out the better angels and suppressing the inner demons.

**Jacobsen:** What setups, empirically speaking, tend to bring the subsystems producing behaviours and thoughts, moral sentiments, bringing out the “better angels of our nature”?

**Pinker:** Democracy is one of them. The idea, no one has the right to dominate anyone else. There is a provisional, circumscribed, and temporary power granted to some individuals subject to recall and oversight to protect us against each other or to maximize public goods. That’s one of them. Cosmopolitan mixing of people and ideas. It becomes harder to demonize others if you know the state of the world in their shoes or from their point of view. Ideas such as human flourishing as the ultimate good rather than national glory or the propagation of dogma or adherence to scripture. The cultivation of a sense of fallibility, corrigibility, knowledge of human limits and human nature. So, we set up our institutions, not because any one of us can claim to be angelic or moral, or infallible or omniscient. Precisely the opposite, we set up rules of the game, so we can approach the truth or the morally best way of arranging our affairs. Even though, no one of us is good or wise enough to attain it. We have mechanisms with democratic checks and balances. We do not empower a benevolent despot because the despots are a guy or a gal complete with human infirmities. We do not allow scientific authorities to legislate a dogma. We have peer review. Even a Nobel Prize winner can’t get his or her stuff published without other people anonymously vetting it, it is part of the norm of science. Anyone can raise their hand and point out a flawed argument of anyone else. We don’t always implement them in as effective a form as desirable. However, those are aspirations. The fact of setting up rules allowing better states of knowledge, better forms of cooperation despite our limitations is a way in which we can outdo ourselves.

**Jacobsen:** You’ve done a debate or several debates on sex and gender differences. What are the differences between men and women, which are significant? What are some caveats to some of those significant differences?

**Pinker:** Yes, I consider myself a feminist. I celebrate the incomplete advancement of women’s rights and interests in all walks of life. However, I don’t think feminism demands sameness or interchangeability. In fact, I think it’s rather insulting to women.

**Jacobsen:** [Laughing].

**Pinker:** To say, it makes them worthy of rights, so they're exactly like men. Because men and women have plenty of bugs, shortcomings, and flaws. Among the differences, the differences in sexuality. Men have a greater taste for sex for its own sake without consideration for emotional commitments. Perhaps, the most recent sign of this comes from the growing industry in sex robots.

**Jacobsen:** [Laughing].

**Pinker:** It is exclusively male. There are others. Men are the more violent gender. The homicide rates tend to be more than 10 times greater for male on male compared to female on female. Men tend to be more interested in things. Women are more interested in people. On average, in cognitive abilities, the differences are smaller and measurable. Men tend to be better at 3-dimensional spatial rotation. Women tend to be better at verbal fluency and arithmetic calculation. Men tend to be greater risk-takers, including stupid risks. There are others. Those are some of the major ones. Two major caveats, we are talking about two overlapping bell curves. For any difference in the averages, there are going to be plenty of women who are better than the average male and plenty of males who are better than the average female in spatial ability, in sexuality, in risk-taking, in interest in gadgets, etc. You name it. Also, we shouldn't confuse the existence of observed differences amongst the averages or the central tendencies with political or moral rights/obligations. Namely, every individual should be treated as an individual and should have the opportunity to do whatever he or she finds is best for them. Florynce Kennedy once said, "There are very few jobs that actually require a penis or vagina. All other jobs should be open to everybody."

**Jacobsen:** [Laughing] That's a good quote. There's another facet of this as well. It has to do with the factor of *variance*. If we look at the extreme levels of either end of the curve, the Gaussian normal distribution, the bell curve, let's say 4 standard deviations on either side of the average, so, the profoundly gifted or the profoundly not, what shows up in the population of the profoundly gifted or not? For instance, the ratio of men to women at those levels. Also, if we look at the various standardized tests measuring at those levels, insofar as they do, what about the subtest scores in terms of the amount of sameness on all the subtests and the variability on all of the subtests too?

**Pinker:** There are a number of robust sex differences. There is more variability in men than in women. So, when you go out to the tails in either direction, the sex ratio is different. With the caveat, the farther and farther out one looks at the tails of the distribution, then the smaller and smaller are the sample sizes. So, the data get fuzzier. The other caveat is variance never reaches zero. So, no matter how far out one goes or not, you will see specimens of both sexes. However, in general, there are more men proportionately at the high and low end of most continua for which we have data.

**Jacobsen:** What are some of the socially predicted outcomes of this kind of variability? How does this manifest itself in society?

**Pinker:** One of them, if in a completely fair system, let's say one utterly gender blind, you would not expect a 50/50 ratio in any profession. This has been long obvious to me based on the early career in childhood language acquisition. There was a statistical imbalance in favour of women. Both in sheer numbers and most of the intellectual superstars. In other fields, it may go another way, e.g., mechanical engineering, theoretical physics. Again, people tend to confuse the observation of the numbers as "not 50/50" with the claim of "no women." It is preposterous. Only a madman would think women aren't in physics or mechanical engineering. It doesn't mean the numbers will be 50/50. In turn, it means departure from 50/50 is not, itself, a proof of sexism. Although, there may be sexism. Certainly, there is sexism. We can have any target, any aspiration. We can decide: It is an important social goal for 50/50 outcomes in mechanical engineering. I think this is a dubious goal. It means that we would not achieve the goal merely by a completely fair system. We would have to tilt this in the other direction with affirmative action policies in favour of women. Maybe, this is a social goal. Certainly, it *must* be a social goal. There should be no discrimination or harassment. Even in a utopian world in which discrimination and harassment fell to zero, we would not automatically end up with 50/50 ratios.

**Jacobsen:** If we look at a humanist philosophy, by the very nature of it, it is not merely atheism or agnosticism. In that, atheism is, as we know, simply a rejection of the supernatural in the form of gods. Agnosticism is a form of "I don't know" about it. Humanism takes an ethical approach. At the same time, it incorporates science into its philosophical meanderings. So, it is open to revision. I think this is

probably the reason for a moderately amusing thing among humanists, which is to make *a lot* of declarations (or manifestos) since 1933 forward.

Pinker: [Laughing].

Jacobsen: [Laughing] I wrote an article for a column for the Humanist Association of Toronto. I counted probably about 12.

Pinker: [Laughing].

Jacobsen: [Laughing] There's, at least, that many. Some saying the same things. Others saying not the same things. You see variations between "ethical humanism" or "humanism." You see an alternate religious philosophy and then non-dogmatic philosophy without incorporating religious terminology. When I frame this to myself, I look at Humanism as an empirical moral philosophy. By that nature, it will continually evolve as our best scientific understandings of the world evolve through the standard procedures of science mentioned before. If we take into account an ethical philosophy that evolves and will be ever, *hopefully*, improving based on improvements in our scientific understandings of the world, what do you think will be some of the next steps based on the richer understanding of science and very deep scientific sensibilities for Humanism as an ethical philosophy? What will be a reasonable next step?

Pinker: Yes, I think you're right in differentiating and linking atheism *per se*. That is, atheism as the rejection of supernatural beliefs and Humanism has human flourishing as the ultimate moral good, and the scientific worldview states that we ought to base our beliefs on empirical verification and explanatory depth. They reinforce one another. Even though, they are not identical. Next steps, good question, I think some are a deeper understanding of human nature, of the sources of belief, sources of morality, and the conditions in which we are, more or less, rational. Why smart people can believe stupid things or, at least, irrational things? What are the social conditions allowing both humanistic and rational beliefs to bubble up, to become second nature? We have seen some this, particularly since WWII, where institutions are more secular and humanistic on average. However, we have seen the rise of authoritarian nationalism and populism. There are forces pushing against the Enlightenment cosmopolitan humanist worldview. What are the components of human nature allowing us to eke out a more

humanistic worldview? What are the parts dragging this nature back down? What are the circumstances allowing human beings to flourish, as another line of inquiry? How come with all the improvements in objective human wellbeing, many countries do not have a commensurate rise in happiness? The United States is, by all measures, better off than 70 years ago. It is not much happier, if at all. Many countries are happier than the United States. Why is there so much grievance and anger despite the measurable improvements in people's objective wellbeing? These are all fascinating empirical questions, which would reflect back on our moral worldview as well.

**Jacobsen:** Last question tied to a comment, so, Dr. Leo Igwe and I have been working through Advocacy for Alleged Witches (AfAW) to combat a big issue in the African continent around allegations of witchcraft and disbelief in witchcraft. You've made a donation and helped with social media on some coverage of this. So, thank you. There's still a wide range of rationality and irrationality throughout the regions of the world. There will be wide disparities in the regions of the world based on the education systems, the wealth of the society, the rights implemented and not just stipulated. What do you believe or think needs the most pressure now, in the next few years, to move the dial towards Enlightenment Humanism and scientific rationality more than not?

**Pinker:** One is a rise in education. We know societies with more education are less vulnerable, though not immune, to supernatural beliefs, not least with witchcraft. An extraordinarily dangerous belief and prevalent across societies being more of a rule than an exception.

**Jacobsen:** [Laughing].

**Pinker:** It has to be singled out as a source of evil. Reminding people of the history, the accusers used to be the accused. Also, there is a need to promote a humanistic enlightened view as an alternative source of values and morality. You alluded to this before in tallying up the number of humanistic declarations. There is a need for them. Not, maybe, the declarations, but, certainly, the moral energy, it is not enough to debunk toxic beliefs. There has to be the promotion of moral values, which we can defend and strive towards. Humanism, for lack of a better word, is that belief system. It is one needing promotion in different guises. That is, it is not a question of appealing to superstitions and supernatural beliefs to be moral. In that, there is a coherent value

system; namely, making people wealthier, happier, and healthier, more stimulated and safer, these are good things, moral things, and noble things. We haven't found the right marketing, the right packaging, in order to promote them as a positive alternative to the toxic beliefs that we're vulnerable to.

**Jacobsen:** Professor Pinker, thank you for your time, it was lovely.

**Pinker:** Thanks so much, Scott, it was good to talk to you.



Conversation with  
Claus Volko, M.D.  
on High-I.Q. Societies: Member,  
World Genius Directory (6)  
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## Abstract

Claus Volko is an Austrian computer and medical scientist who has conducted research on the treatment of cancer and severe mental disorders by conversion of stress hormones into immunity hormones. This research gave birth to a new scientific paradigm which he called “symbiont conversion theory”: methods to convert cells exhibiting parasitic behaviour to cells that act as symbionts. In 2013 Volko, obtained an IQ score of 172 on the Equally Normed Numerical Derivation Test. He is also the founder and president of Prudentia High IQ Society, a society for people with an IQ of 140 or higher, preferably academics. He discusses: high IQ societies; Mensa in Austria; current size of Prudentia; journal publications; the Facebook group; membership size and demographics; Facebook; “only positive aspects” to high-IQ societies; the failures; more realistic purposes; the tests of Ivan Ivec; other societies than Mensa; Henning Ludvigsen; Kostantino Pataridis; hardly anyone drank at the Mensa meetings; logics; the journal; the new society; members from Europe, Asia, and North America; books; television, movies, or music of interest; interesting discoveries in medicine; a paradigm shift; and favourite issue of the society journal.

Scott Douglas Jacobsen: Why are most “high IQ societies are not much more than websites with member lists”?

Claus Volko, M.D.[1],[2]\*: Mostly because they are international organizations that have members in a large number of countries but not many members in a single country. So there are no real-life, face-to-face meetings.

Jacobsen: How is Mensa in Austria able to host monthly meetings in Vienna?

Volko: There are about 200 members living in Vienna.

Jacobsen: What is the current size of Prudentia?

Volko: Right now we have 46 members.

Jacobsen: The journal publications seem short in the first analysis. Why short for some of these first issues of the journal?

Volko: I decided to publish a new issue of the journal whenever I had new material to publish instead of keeping collecting material until a certain amount would have been gathered.

Jacobsen: What happens on the Facebook group?

Volko: Not much yet. Mostly introducing new members.

Jacobsen: What is the membership size and demographics now?

Volko: There are members from Europe, Asia and North America.

Jacobsen: Why is Facebook the social medium for the high-IQ individuals?

Volko: Well, most people have a Facebook account. So why should they not use it.

Jacobsen: In regards to “only positive aspects” to high-IQ societies, what are the positive aspects of societies like Prudentia and Mensa International?

Volko: Prudentia has a nice journal with some highly interesting articles, e.g. on Symbiont Conversion Theory and on the Synthesis of Metaphysics and Jungian Personality Theory.

Jacobsen: If, in theory, they could perform such a function apart from the postsecondary institutional environment and the long-term existence of the societies. Why the failures to do it? Also, is this reasonable with the fact that most “high IQ societies are not much more than websites with member lists”?

Volko: High IQ societies need to publish more educational and scientific articles.

Jacobsen: Following from the previous question, why not simply have the more straightforward notion of the evidenced existence of social communities for the highly intelligence alongside academia as a more concrete and realistic contributor to the needs of society? One can point to the failures of academia. However, its benefits would seem to far outweigh its costs and the high-IQ societies appear, as you noted, “not much more than websites with member lists.” As well, what other more realistic purposes could high-IQ societies perform in the early 21<sup>st</sup> century, even the middle 21<sup>st</sup> century?

Volko: Basically high IQ societies are a means of getting to know people. It does not matter which society one belongs to, people connect with each other via Facebook and talk.

Jacobsen: Why the tests of Ivan Ivec?

Volko: They are pretty well-made and have decent norms.

Jacobsen: Are there any other societies than Mensa providing real in-person meetings?

Volko: Intertel has annual gatherings, as far as I know.

Jacobsen: What are some examples of the works of Henning Ludvigsen exemplifying his talent?

Volko: He has made a lot of great drawings, e.g. title pictures of some issues of Hugi Magazine.

Jacobsen: What are some examples of the works of Kostantino Pataridis exemplifying his talent?

Volko: His best work in my opinion is “Happiness is around the bend”: <https://www.youtube.com/watch?v=SQngoCBvq3Q>.

Jacobsen: Why do you think hardly anyone drank at the Mensa meetings? Did you ever drink akin to fellow high school students in high school?

Volko: I don't often drink, only when others around me drink too. I think Mensa members are proud of their intelligence and know that alcohol may harm their intellect, so they avoid it.

Jacobsen: Are there logics in which the assigning of values “true” and “false” simply fail?

Volko: There are also multi-valued logics such as fuzzy logic where a probability that the value is true is assigned to it.

Jacobsen: What topics would you hope to explore in the journal as the society membership grows?

Volko: I would like to explore topics related to all of science and philosophy. Prudentia is a high IQ society that is primarily for academics and people with interest in science and philosophy. The journal is supposed to give these people a platform where they can present their own original ideas.

Jacobsen: How big do you hope to grow the new society? That is, what would be your highest hopes?

Volko: More important than the number of members is their activity. I would like to have a group of members who regularly contribute to the journal. If I manage to gather such a group, Prudentia has been a success.

Jacobsen: Of those members from Europe, Asia, and North America, are most from Europe?

Volko: Yes, currently most of our members are from Europe.

Jacobsen: Have you been reading any books as of late?

Volko: Admittedly, no. Due to Corona the bookshops are closed and I haven't read any of the books I have at home in recent days. But I would like to read the textbooks on introductory math and physics for university students which I purchased some time ago soon.

Jacobsen: Any interesting television, movies, or music of interest to you?

Volko: I regularly watch an Austrian television programme in which the participants tell each other jokes. In addition, I enjoy watching quiz programmes. My favourite movies are the Bourne saga, the Mission Impossible saga, the Divergent trilogy and the Indiana Jones movies.

Jacobsen: What are some interesting discoveries in medicine alongside Symbiont Conversion Theory?

Volko: Recently a new DNA shape has been discovered, and artificial intelligence has been applied to discover 3D protein foldings.

Jacobsen: Do you think philosophy, science, or theology are due for a paradigm shift? If so, why so? If not, why not? This can be outside of the earlier professional propositions by you.

Volko: I am not sure about this and I have no idea whether anybody is able to assess this at all. My view is that every person has a different opinion and that there is not a uniform scientific paradigm.

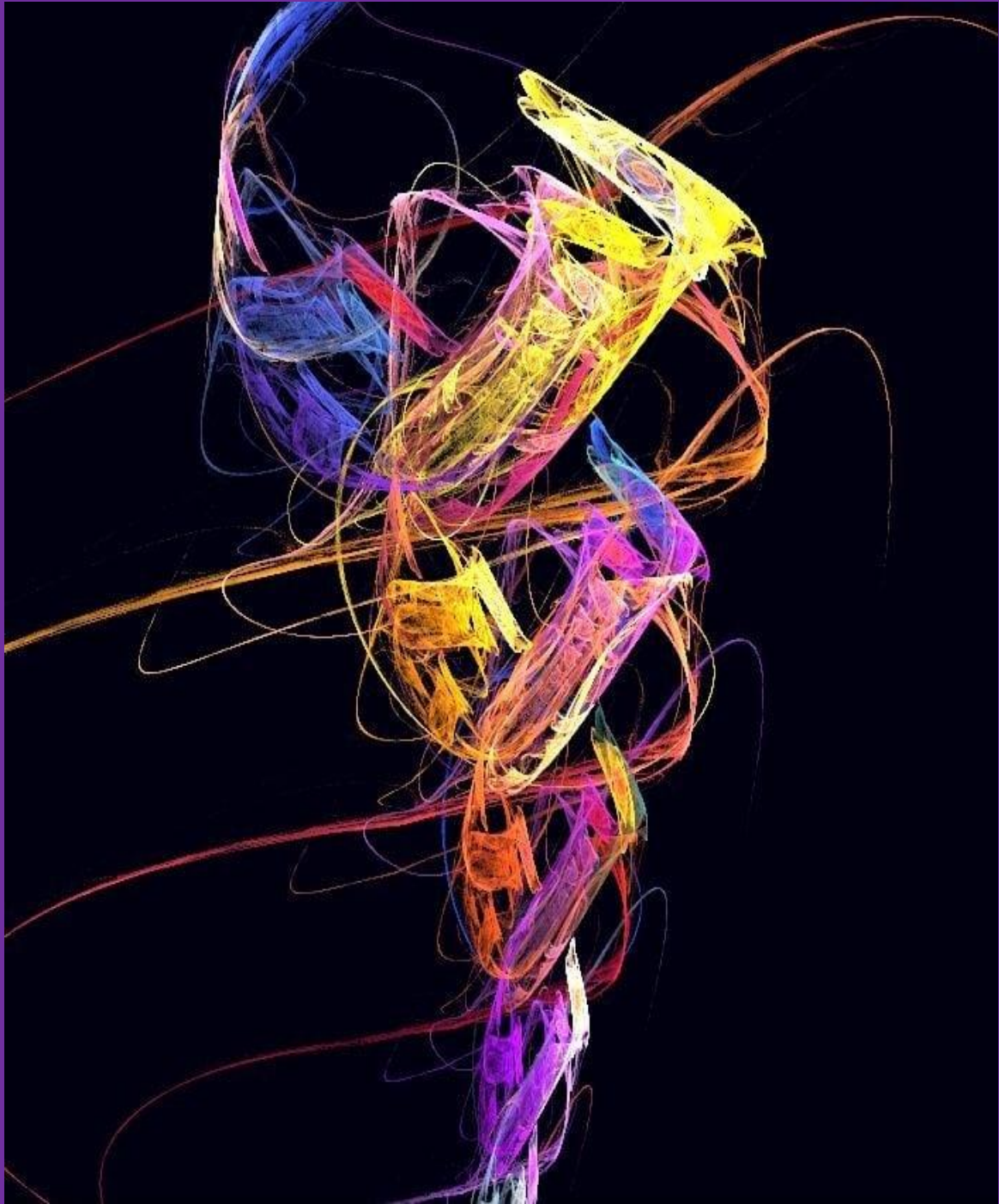
Jacobsen: What is your favourite issue of the society journal so far?

Volko: I like the second and the third issue very much because of their original scientific contents. Also, “The Synthesis of Metaphysics and Jungian Personality Theory” is a very good article, in my opinion (I know that I am praising myself here, as I am the author, but I would be of the same view if any other person had written the article).

## ART BY SLAVA LANUSH







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