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## A RETRIEVAL OF JONATHAN EDWARDS' CONCEPT OF FREE WILL: THE RELEVANCE FOR NEUROSCIENCE

### *Introduction*

Despite the hundreds of years that society has dedicated to science and technology which has led to the development of airplanes, space travel, computers and nano-techniques, when we reflect on ourselves we are still embarrassed about how little we understand about our human identity.<sup>1</sup> Neuroscience can help us to develop insight, to comprehend ourselves and our identity, especially in the complex and perplexing area of the freedom of will.

The tendency in neuroscience has been to deny an autonomous free will. The seriousness of this shocking academic view touches modern humanity and society<sup>2</sup> because it does not just raise academic and philosophical questions about how intentionality, human emotion and love can be accounted for, but the consequences of these neuroscientific discoveries also affect the understanding of

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<sup>1</sup> From a cultural-historical perspective, World War I and II came as a shock to an optimistic humanistic self-understanding that showed the relevance of the 'doctrine of the unfree will', see G.C. den Hertog, *Bevrijdende kennis. De 'leer van de onvrije wil' in de theologie van Hans Joachim Iwand* ('s Gravenhage: Boekencentrum, 1989), 11-12.

<sup>2</sup> In the Netherlands, D.F. Swaab published, *Wij zijn ons brein: van baarmoeder tot Alzheimer* (Amsterdam: Contact, 2010). Swaab's book has continually been on [www.debestseller60.nl](http://www.debestseller60.nl) from October 2010 until November 17 2012 (last accessed 7 December 2012). In 2011 it was number 4 in the top ten of the most sold books in the Netherlands, <http://web.cpb.nl/cpb/campagne.vm?c=51&template=campagnes>.

morality<sup>3</sup> and autonomy, and may also have a huge impact upon accountability and law, on the one hand,<sup>4</sup> and the care of addicts, prisoners<sup>5</sup> and psychiatric patients on the other.

Modern neuroscientists are not the first people to reflect on human will. In the Christian tradition theologians and philosophers have contemplated this issue too. In the first century, Origen (185-254) examined the relationship between necessity, human freedom, and responsibility<sup>6</sup> and since then Augustine theologians have often meditated upon free will and its related problems. Augustine himself wrote *De Libero Arbitrio*,<sup>7</sup> while Anselm furthered this tradition in his *De libertate arbitrii*. During the Augustinian revival of the Reformation, Luther wrote *De Servo Arbitrio*<sup>8</sup> defending a radical theological and soteriological understanding of this anthropological problem by denying free will. Initially, Calvin was not very sensitive to the problems raised by the concept of free will, but the writings of Albertus Pighius increased his awareness of this issue and convinced him of the necessity of making sound expressions and clear distinctions.<sup>9</sup>

The theme of free will remained an issue throughout the reformed tradition; confessions are a reflection of this attention given to the issue of free will.<sup>10</sup> The numerous theological studies on this issue, and the different emphases that these theologians stressed, is evidence of the great interest shown in this theme.<sup>11</sup> While Luther denied free will, Calvin was much more careful in his speech/expressions; the early modern reformed tradition underlined the freedom of human will and the contingency of God's acts. That this insight was not definitive is made clear

<sup>3</sup> See E.J. Sternberg, *My Brain Made Me Do It: The Rise of Neuroscience and the Threat to Moral Responsibility* (New York: Prometheus, 2010).

<sup>4</sup> V.A.F. Lamme, 'Controle, vrije wil en andere kletsboek', *Justitiële Verkenningen* 34, 1, 2008, 76-88.

<sup>5</sup> See B. Demyttenaere, *Levenslang, een blik achter de tralies van de Belgische gevangenis* (Antwerpen: Manteau, 2002), 201.

<sup>6</sup> See H.S. Benjamins, *Eingeordnete Freiheit. Freiheit und Vorsehung bei Origenes* (Leiden: Brill, 1994).

<sup>7</sup> See also S. Harrison, *Augustine's Way into the Will. The Theological and Philosophical Significance of De Libero Arbitrio* (Oxford: OUP, 2006).

<sup>8</sup> Weimarer Ausgabe 18, 600-787. Luther wrote to Erasmus in relation to the problem of the will: 'Unus tu et solus cardinem rerum vidisti, et ipsum iugulum petisti, pro quo ex animo tibi gratias ago' (You, and you alone, have seen the hinge on which all turns, and aimed for the vital spot. For that I heartily thank you), Weimarer Ausgabe 18, 786. For an English translation, see *The Bondage of the Will* (Grand Rapids: Baker, 1990). Iwand found in the doctrine of the unfree will the Archimedean point of theology, G.C. den Hertog, *Bevrijdende kennis*, 105.

<sup>9</sup> Calvin's thoughts are laid down in *Institutes* 2.2. See P. Helm, *John Calvin's Ideas* (Oxford: Oxford Univ. Press, 2004), 157-183. Free will is also a theme in confessions, see *Canones of Dordt* III/IV, art 12, 16; *Westminster Confession of Faith*, Chapter IX.

<sup>10</sup> See *Canones of Dordt* III/IV, art 12, 16; *Westminster Confession of Faith*, Chapter IX.

<sup>11</sup> The book which is edited by W.J. van Asselt, J.M. Bac and R.T. te Velde deals with the approaches of Girolamo Zanchi, Fransiscus Junius, Fransiscus Gomarus, Gisbertus Voetius, Fransesco Turretini and Bernardinus de Moor, *Reformed Thought on Freedom. The Concept of Free Choice in Early Modern Reformed Theology* (Grand Rapids: Baker, 2010).

by Jonathan Edwards who—in accordance with Luther—emphasized necessity, but—in opposition to Luther—defended human free will.<sup>12</sup>

Given the fact that during this century, there has been such an increase in the cooperation between theologians and neurobiologists in understanding the coherence of intelligence and religion that some people even speak about 'neurotheology'<sup>13</sup> there are good reasons for investigating how the Christian tradition can contribute to the current debate. The concept of free will expounded by Jonathan Edwards a representative of the Christian tradition is used for this investigation, for the following reasons. Firstly, Edwards opposes the argument of self-determination, which is also recognizable in neuroscience.<sup>14</sup> Secondly, Edwards underlined the concept of necessity, in contrast to the spirit of his early modern age that was focused on human autonomy.<sup>15</sup> Thirdly, the fact that Edwards wrote about anthropological themes, including *Freedom of the Will*, *Original Sin* and *Religious Affections* indicates that he was a modernist which makes him a suitable partner for our age.<sup>16</sup> Fourthly, Edwards combines a deterministic worldview on the one hand, with morality and responsibility on the other, which makes it interesting to look at the structures of his thought processes.

In this essay<sup>17</sup> I will first briefly describe the main points of the determinis-

<sup>12</sup> See Edwards on *Freedom of Will*, in WJE 1 (*The Works of Jonathan Edwards*, New Haven: Yale University Press, 1957, vol. 1).

<sup>13</sup> This expression is used in circles of the Institute for the Biocultural Study of Religion, www.ibcsr.org, an example of the cooperation of different disciplines. This institute issues a magazine, *Religion, Brain and Behavior*. See also: W.S. Brown, N. Murphy, H. Newton Mahony (eds.), *Whatever Happened to the Soul? Scientific and Theological Portraits of Human Nature* (Minneapolis: Fortress Press, 1999); R.J. Russell, N. Murphy, T.C. Meyering, M.A. Arbib (eds.), *Neuroscience and the Person. Scientific Perspectives on Divine Action* (Berkeley: Vatican Observatory Foundation, 2002); U. Lüke, H. Meisinger, G. Souvignier (Hrsg.), *Der Mensch – nichts als Natur? Interdisziplinäre Annäherungen* (Darmstadt: Wissenschaftliche Buchgesellschaft, 2007); A.W. Geertz, 'When cognitive scientists become religious, science is in trouble: on neurotheology from a philosophy of science perspective', in: *Religion* 39/4 (December 2009), 319-324; W. Achtner, *Willensfreiheit in Theologie und Neurowissenschaften. Ein historisch-systematische Wegweiser* (Darmstadt: Wissenschaftliche Buchgesellschaft, 2010).

<sup>14</sup> See WJE 3:375, WJE 16:722-723. Edwards understands the power of self-determination as the will that 'determines its own volitions; so as not to be dependent in its determinations, on any cause without (outside) itself, not determined by anything prior to its own acts', WJE 1:82, see also 164. D.A. Sweeney and A.C. Guelzo understand Edwards' opinions about freedom of will as 'the engine of the Edwardsean tradition', *The New England Theology: From Jonathan Edwards to Edwards Amasa Park* (Grand Rapids: Baker Academics, 2006), 57. This is an indication as to how important this topic was in Edwards' theology.

<sup>15</sup> "And particularly that grand objection, in which the modern writers have so much gloried, and so long triumphed, with so great a degree of insult towards the most excellent divines and, in effect, against the gospel of Jesus Christ, viz. that the Calvinistic notions of God's moral government are contrary to the common sense of mankind", in his letter of July 7, 1752 to John Erskine, WJE 16: 491. See also G.M. Marsden, *Jonathan Edwards. A Life* (New Haven: Yale University Press, 2003), 437-438.

<sup>16</sup> See also M.J. McClymond and G.R. McDermott, *The Theology of Jonathan Edwards* (Oxford: Oxford Univ. Press, 2012), 15.

<sup>17</sup> Here I use parts taken from my 'Neurocalvinism: Calvinism as a paradigm for neuroscience', in P. Jonkers & M. Sarot (eds.), *Embodied Religion. Proceedings of the 2012 Conference of the European Society*

tic approach of neuroscience. I will then investigate Jonathan Edwards' concept of free will in relation to determinism, responsibility and morality, and reframe it in the context of contemporary neuroscience.<sup>18</sup> This investigation concludes with some final considerations of the relevance of theology for science and neuroscience in general and of theological concepts of freedom in particular

### *Neuroscience on Free Will*

Much of the contemporary case made for the denial of free will in neuroscience is based on the experimental work of Benjamin Libet.<sup>19</sup> His 1983 experiment became famous and had an enormous impact. In this experiment, Libet asked volunteers to press a button when they were happy with themselves. An EEC with an active electrode on the scalp detected a slow electrical current that preceded the actual movement of the fingers by up to a second or more.<sup>20</sup> It is not striking that there is a time interval between the first brain change (RP = readiness potential) and the actual movement, because there is always a time interval between our conscious decision and the act itself, but Libet asked more. He wondered whether the RP was present before the consciousness to act. When he studied the relationship between RP and consciousness, he found that RP began 550 milliseconds before the actual conscious decision to act was made. This experiment has been repeated, refinements have been introduced, errors have been admitted, but by far the most

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for *Philosophy of Religion* (Utrecht: Ars Disputandi 2013), 279-292, in which I made an assessment of Swaab's determinism in the paradigm of Jonathan Edwards' determinism.

<sup>18</sup> For a discussion of the concept of retrieval, see J. Webster, 'Theologies of Retrieval', in *Oxford Handbook of Systematic Theology* (Oxford: Oxford Univ. Press, 2007), 583-599. A striking example of a theology of retrieval is the fresh application of the older theological concept of *unio mystica cum Christo*, see J. Canlis, *Calvin's Ladder. A Spiritual Theology of Ascent and Ascension* (Grand Rapids: Eerdmans, 2010); M. Horton, *Covenant and Salvation: Union with Christ* (Louisville: Westminster John Knox, 2007); D.E. Tamburello, *Union with Christ. John Calvin and the Mysticism of St. Bernard* (Louisville: Westminster John Knox, 1994); J. Todd Billings, 'United to God through Christ: Assessing Calvin on the Question of Deification', in *Harvard Theological Journal* 98/3, 315-334; *Calvin, Participation, and the Gift: The Activity of Believers in Union with Christ* (Oxford: Oxford Univ. Press, 2008); *Union with Christ. Reframing Theology and Ministry for the Church* (Grand Rapids: Baker, 2011).

<sup>19</sup> B. Libet, A. Freeman and K. Sutherland, 'Editor's Introduction: The Volitional Brain', *Journal of Consciousness Studies* 6/8-9 (1999), ix-xxiii, xvi. T. Bayne explains: 'Libet's studies concerning the neural basis of human agency [is] [...] the most influential rebutting objection (to free will, WvV) in the current literature', 'Libet and the Case for Free Will Scepticism', in: R. Swinburne (ed.), *Free Will and Modern Science* (Oxford: Oxford Univ. Press, 2011), 25-46, 26. Compare about Libet, M. Sarot, 'Christian Faith, Free Will and Neuroscience', in P. Jonkers & M. Sarot (eds.), *Embodied Religion. Proceedings of the 2012 Conference of the European Society for Philosophy of Religion* (Utrecht: Ars Disputandi, 2013), 105-119, 112-116.

<sup>20</sup> For a summary of his findings, see B. Libet, C.A. Gleason, E.W. Wright and D.K. Pearl, *Brain: A Journal of Neurology* 106, no. 3 (1983), 623-642; B. Libet, 'Do We Have Free Will?' *Journal of Consciousness Studies* 6/8/-9 (1999), 47-57, reprinted in R. Kane (ed.), *The Oxford Handbook of Free Will* (Oxford: Oxford Univ. Press, 2002), 551-564 and in Sinnott-Armstrong & Nadel (eds.), *Conscious Will and Responsibility: A Tribute to Benjamin Libet* (Oxford: Oxford Univ. Press, 2011), 1-10.

important outcome of this sort of experiment was that conscious decisions clearly do take place after RP.<sup>21</sup>

These sorts of experiments have had an enormous impact on the debate about free will. It seems clear that our volitions and our deeds are not voluntary, but are the product of brain processes. It appears as if our decisions, our emotions and our beliefs are products of a brain machine; contrary to any thoughts about a human free will.<sup>22</sup> Remarkably, Libet himself did not draw this conclusion; instead he acknowledged that volitional processes are initiated unconsciously, but stressed that the conscious function is still in control because of its ability to veto the act.<sup>23</sup> In this way he states that free will does not initiate and generate decisions, but is in control of them.

Many neuroscientists, however interpreted the outcomes of Libet's experiments in a different way, and concluded that the real autonomy of free will appeared to be an illusion.<sup>24</sup> They understood the complete personality as one which was controlled by billions of brain cells; every sickness, every disposition, every understanding, every choice and even religion could be related to the functioning of a part of the human brain. There is a strong coherence between the functioning of the human brain and the functioning of the human spirit. If the human brain dysfunctions, if the brain is removed or dies, the human spirit dysfunctions. In other words, if the brain does not function, the human spirit does not function. Because the functioning of the human spirit can be described and explained in physical terms, it is controlled by physical laws. This explains the understanding of the deterministic character of the human spirit and of human will in particular, because physical reality is determined by the order of cause and effect.

Accepting a deterministic worldview in relation to physical reality leads one to

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<sup>21</sup> Meanwhile more recent experiments suggest that the process leading to free acts already starts ten seconds before the act, C.S. Soon, M. Brass, H.J. Heinze & J.D. Haynes, 'Unconscious Determinants of Free Decisions in the Human Brain', *Nature Neuroscience* 11 (2008), 543-545.

<sup>22</sup> C. Blakemore expresses: "The human brain is a machine which alone accounts for all our actions, our most private thoughts, our beliefs (...) All our actions are products of the activity of our brain", cited by R. Tallis, *Aping Mankind: Neuromania, Darwinitis and the Misrepresentation of Humanity* (Durham: Acumen, 2011), 52. See also D.F. Swaab, *Wij zijn ons brein: van baarmoeder tot Alzheimer* (Amsterdam: Contact, 2010) 381. Swaab speaks about neurocalvinism to suggest that neuroscience implies a deterministic worldview.

<sup>23</sup> Libet, 'Do We Have Free Will?', 47. See also A.L. Roskies, 'Why Libet's Studies Don't Pose a Threat to Free Will', in W. Sinnott-Armstrong & L. Nadel (eds.), *Conscious Will and Responsibility: A Tribute to Benjamin Libet* (Oxford: Oxford Univ. Press, 2011), 11-22.

<sup>24</sup> D.F. Swaab speaks about neurocalvinism suggesting that neuroscience implies a deterministic worldview, *Wij zijn ons brein*, 381. Other free will sceptics who appeal to Libet include G. Roth, *Das Gehirn und seine Wirklichkeit: Kognitive Neurobiologie und ihre philosophischen Konsequenzen* (Frankfurt: Suhrkamp, 1994); S.A. Spence, 'Free Will in the Light of Neuropsychiatry', *Philosophy, Psychiatry & Psychology* 3/2 (1996), 75-90; D. Wegner, *The Illusion of Conscious Will* (Cambridge, MA: MIT Press, 2002).

conclude that any understanding of human will must be based on the recognition of the will's ability to make decisions or choices without any internal or external restraints. Because of heritage and socio-environmental factors which determine the functions of our brains, an important part our behaviour is determined from our birth on. This means that the freewill sceptics deny the libertarian concept of human free will which understands the ultimate decision about our existence, our willing and our acting as made by an isolated abstract human will. They acknowledge that human will has to be understood from and be determined by human personality, education and environment.

Because of the limited range of anthropological and philosophical distinctions the free will sceptics among neuroscientists are not compatibilists or soft determinists, who combine a deterministic worldview with human free will.<sup>25</sup> Their denial of compatibilism coheres in general with the Principle of Alternative Possibilities as an interpretative paradigm for free will; this leaves no room for understanding human will as free, but conscious willingness is taken to be a product of unconscious neural brain processes which are under the control of physical laws.<sup>26</sup>

The fact that neuroscientists defend the coherence of free will and responsibility<sup>27</sup> and deny freedom of will, means that free will sceptic neurobiologists tend to deny that responsibility has any role in social life.<sup>28</sup> If free will does not exist, responsibility has to be redefined. The neuroscientist Swaab, who espouses this position, illustrates this issue with the example of a paedophile who according to Swaab, cannot be held responsible for his sexual orientation, because his orientation is caused by his genetic background and the irregular development of his brain; being a paedophile thus cannot be seen as the result of a free choice. Swaab proposes that the same reasoning be applied to kleptomania and other forms of delinquent behaviour, including the consequences for accountability and responsibility. This approach also has consequences for morality and religion, which Swaab understands as being determined by biological influences.<sup>29</sup>

Although the existence of the soul is acknowledged in all cultures, Swaab denies it.<sup>30</sup> According to his understanding the human soul is nothing more than the functioning of billions of brain cells, which ends at death.<sup>31</sup> This confirms the

<sup>25</sup> See also A. König, 'Providence, Sin and Human Freedom', in: A. van Egmond and D. van Keulen (eds.), *Freedom. Studies in Reformed Theology* (Baarn: Callenbach, 1996), 181-194, 181-184.

<sup>26</sup> See W. Achtner, *Willensfreiheit*, 223-232 for the common views of neuroscientists.

<sup>27</sup> See Swaab, *Wij zijn ons brein*, 385, 391.

<sup>28</sup> See Swaab, *Wij zijn ons brein*, 392.

<sup>29</sup> Swaab, *Wij zijn ons brein*, 290-293, 323-330.

<sup>30</sup> Swaab, *Wij zijn ons brein*, 357.

<sup>31</sup> See B. Keizer, *Waar blijft de ziel?* (Rotterdam: Lemniscaat, 2012), 61-62.

physicalistic understanding of reality in which reality is understood as monistic, reductionistic and materialistic as if humans—according to the title of Swaab's bestseller—are nothing more than their brains.<sup>32</sup>

*Reframing Edwards's Concept of Free Will*

Edwards developed his understanding of free will by debating with the Arminians, the libertarians of his time.<sup>33</sup> According to Edwards, the issue of a self-determining will was absolutely fundamental to their position in relation to morality and responsibility:

Here I would observe in general, that the aforementioned notion of freedom of will, as essential to moral agency, and necessary to the very existence of virtue and sin, seems to be a grand preferred point with Pelagians and Arminians, and all divines of such characters, in their controversies with the orthodox. There is no one thing more fundamental in their schemes of religion: the determination of this one leading point depends on the issue of almost all controversies we have with divines.<sup>34</sup>

Edwards' opponents argued that determinism and necessity would destroy freedom, responsibility and morality, because determinists understood human beings to be acting out of necessity like impersonal machines and simply links in the chain of the cause and effect.<sup>35</sup> Edwards, however, defended the necessity of human deeds, without denying human freedom, morality and responsibility. To achieve this compatibilism, on the one hand Edwards qualifies his understanding of necessity and freedom and on the other hand he developed a high level branch of anthropology which is characterized by its holistic approach to the relationship between human will and human intellect.

In the following section, Edwards' qualification of the concept of necessity and freedom is investigated and his holistic branch of anthropology is outlined. I then

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<sup>32</sup> In opposition to the materialism as the guarantee for unity, G.H. Labooy stress a duality, *Waar geest is, is vrijheid. Filosofie van de psychiatrie voorbij Descartes* (Amsterdam: Boom, 2007), 261.

<sup>33</sup> Edwards opposed a certain (extreme) version of Libertarianism. Libertarianism in general means that human will is ultimately decisive for choices, see R.H. Kane, 'Libertarianism', in: Fischer, Kane, Pereboom and Vargas, *Four Views on Free Will* (Oxford: Blackwell, 2007), 5-43. Kane defends an undetermined free will, 'Responsibility, Luck, and Chance: Reflections on Free Will and Indeterminism', *Journal of Philosophy*, 96, 217-240. For philosophical distinctions, see current introductions to free will, J.K. Campbell, *Free Will* (Cambridge: Polity Press, 2011); T.J. Mawson, *Free Will: A Guide for the Perplexed* (London: Continuum, 2011); T. Honderich (ed.), *The Determinism and Freedom Philosophy Website*, <http://www.ucl.ac.uk/~uctytho/dfwIntroIndex.htm> [accessed 13 December 2012].

<sup>34</sup> WJE 3:375.

<sup>35</sup> WJE 1:277, 295.

question how Edwards' response to the libertarians of his time can be made fruitful in the present debate.

### 1. Edwards's qualification of necessity and freedom

For Edwards' opponents the concept of a self-determining will was basic, as he explains:

The word, as used by Arminians, Pelagians and others, who oppose the Calvinists, has an entirely different signification. These several concepts belong to their notion of liberty: 1) That is, it consists of a self-determining power in the will, or a certain sovereignty which the will has over itself (...). 2) Indifference belongs to liberty in their notion of it, or that the mind, previous to the act of volition, is in equilibrio. 3) Contingence is another thing that belongs and is essential to it; not in the common acceptation of the word, as that has been already explained, but as opposed to all necessity, or any fixed and certain connection with some previous ground or reason of its existence.<sup>36</sup>

Edwards' rejection of the Arminian concept of freedom is deeply theologically motivated. Edwards believed in the sovereignty of God and according to his understanding God has determined all of human history by his eternal decrees. This fact obliges Edwards to deny contingence and to acknowledge the necessity of history. Another implication was the understanding of human self-determination as something contradictory to God's determination.<sup>37</sup> In Edwards' Calvinistic context, this attack on God's determination meant, most importantly, the undermining of reformed soteriology. Edwards understood the Arminian concept of human self-determination as a complete undermining of the role of the irresistible agency of the Holy Spirit in the process of regeneration and faith. If changes in human lives ultimately depend on the human self-determining will, then the glory of the Holy Spirit vanishes.

Edwards' theological motivation for rejecting the libertarian understanding of free will is corroborated by his worldview. Edwards' opponents argue for a libertarian understanding of the will, because they could not accept the impact that the order of cause and effect has upon the exercise of the human will. According

<sup>36</sup> WJE 1:164-165. See WJE 3:375-376.

<sup>37</sup> WJE 16:722. See P. Ramsey, 'Editor's introduction', WJE 1:25-26. Edwards uses the distinction between God producing evil and permitting it, and between God's secret and revealed will, WJE 1:399-410. Edwards accepted the comparison with the Stoic world view; however, he rejects this concept because of the lack of any freedom, WJE 1:372-374. Edwards defends the position that God necessarily chooses what is wise and fits best, denying the arbitrariness of God's will, WJE 1:375-396, 418, 434. God's acts are necessarily moral.



to their understanding the order of cause and effect would make human will an impersonal machine. Edwards did, however accept the Newtonian worldview in which the order of cause and effect is essential for the basic structures of reality.<sup>38</sup> Applying this mechanistic worldview to anthropology means that human will is not self-caused. Edwards regarded self-causation as absurd, like an animal which has begat itself and was hungry before it had being.<sup>39</sup> Edwards rejects the notion of the uncaused and arbitrary free will, and instead proposes that human free will is determined by a combination of the object and the mind's view of the object.<sup>40</sup>

Edwards acknowledges that the Arminian theologians are right to reject the cause-effect order as it applies to the relationship between external deeds and inner motivation.<sup>41</sup> Good behaviour can be caused by bad motives and behaviour under the pressure of circumstances has to be assessed differently than voluntary behaviour. In external deeds, therefore, we should distinguish between effect and cause. But this distinction cannot be applied to the internal habits of people in the same way; internal dispositions are a real indication of the quality of the human soul.

In one sense it could be said that Edwards honours the Arminian use of the external context. While maintaining the mechanic worldview, he appreciates the necessity of qualifying the character of the causes. This leads him to qualifying necessity and distinguishing between natural necessity and moral necessity:

By natural necessity as applied to men, we mean such necessity as men are under the force of natural causes, as distinguished from what are called moral causes, such as habits and dispositions of the heart, and moral motive and inducements (...). What has been said of natural and moral necessity may serve to explain what is intended by natural and moral inability. We are said to be naturally unable to do a thing, when we cannot do it even if we will, because what is most commonly called nature does not allow it, because of some impending defect of obstacle that is extrinsic to the will, either in the faculty of understanding, constitution of body, or external objects. Moral inability is seen not in any of these things, but in either the want of inclination or the strength of a contrary inclination, or the want of a sufficient motive in view to in-

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<sup>38</sup> WJE 1:365. See also G.M. Marsden, *Jonathan Edwards*, 440-441.

<sup>39</sup> WJE 1:345-346. The notion that the human will determines its own volitions implies that each free volition arises from another antecedent volition, which is inconsistent WJE 1:169-195.

<sup>40</sup> 'The act of volition itself is always determined by that in or about the mind's view of the object, which causes it to appear most agreeable.' WJE 1:144. See G.M. Marsden, *Jonathan Edwards*, 445.

<sup>41</sup> WJE 1:341, 348, 351-356.

duce and excite the act of the will, or the strength of apparent motives to the contrary [...]. A woman of great honour and chastity may have a moral inability to prostitute herself to her slave. A child of great love and duty to his parents may be unable to be willing to kill his father.<sup>42</sup>

Edwards' distinction between natural and moral necessity qualifies necessity. Natural inabilities are not related to human responsibility because in general, they lie outside the range of human responsibility and moral intention, whilst moral inabilities do not. Human beings are responsible for their moral inability, but they are not responsible for their natural inability to do morally good things. However, if we behave in a bad way with the agreement of our own will, we are responsible for it. In this way, Edwards tries to retain moral responsibility, despite several determining factors, as a product of our behaviour.

It is clear from Edwards' approach that he discounts any and all mitigating circumstances when he speaks about things being 'extrinsic to the will, either in the faculty of understanding, constitution of the body, or external objects obstacles' indicating that not only external factors contribute to the upholding of moral responsibility or act as an excuse for bad behaviour, but that internal factors can also have the same effect. However, Edwards is not completely clear about the boundaries of the definition of human inabilities, although his concept has the potential for making a distinction between moral necessity and other necessities. In this way, Edwards qualifies the concept of necessity in order to maintain responsibility as a category on the one hand and to maintain freedom as a category on the other.

This qualified necessity means the qualification of freedom, or a redefinition of freedom:

But I would observe one more thing concerning what is vulgarly called liberty, which is the power and opportunity for one to do and conduct himself as he will. According to his choice, it is all that is meant by it without taking into account the meaning of the word, anything of the cause or origin of that choice, or without considering how the person came to have such a volition, that is, whether it was caused by some external motive or internal habitual bias (...). Let the person come to his volition or choice of how he will, yet, if he is able, and there is nothing in the way to hinder his pursuing and executing his will, the

<sup>42</sup> WJE 1:156-160. P. Ramsey remarks that Edwards was among the first to formulate fully and adequately the distinction between 'determinism' and 'compulsion,' related to the distinction of 'natural necessity' and 'moral necessity', 'Editor's Introduction', WJE 1:37.

man is fully and perfectly free, according to the primary and common notion of freedom.<sup>43</sup>

This definition of freedom clarifies that in Edwards' concept, freedom is not presented as the possibility of choosing from different alternatives.<sup>44</sup> This means that Edwards does not understand freedom in the formal framework of the Principle of Alternative Possibilities, which does not treat the freedom of the agent with regard to its possible contents; rather, he describes freedom with regard to contents.<sup>45</sup> According to Edwards, the conscious voluntariness of human volition is a necessary and sufficient condition for freedom and responsibility. Everything that human beings do in accordance with their wills indicates their freedom and underlines their responsibility, while, at the same time, they are excused for committing deeds which are against their active will. Simply stated, freedom is the right to do what we like, even if there is no alternative possibility. For example: if a boy finds himself in a place where there is only one girl to bond with, and he loves this one girl, then he loves her freely. This makes clear that the difference between Edwards and the Arminians of his time is not the disjunction between freedom and responsibility as both the Arminians and Edwards unite freedom and responsibility, but Edwards distinguishes between moral and natural necessity in order to save free will and human responsibility, if not to say humanity. If speaking about free will in a qualified way wasn't possible, then it seems that Edwards would deny responsibility.

If two conditions are met: firstly, if humans have a natural inability, or a derivative of a natural inability and secondly, if humans behave voluntarily, then this concerns human responsibility. Behind this viewpoint is the conviction that moral inability is ultimately qualified as unwillingness and that humans are completely responsible for inexcusable unwillingness.<sup>46</sup> The implied opposite is that nobody can excuse him or herself for morally bad behaviour with an appeal to their inclinations if the bad behaviour was voluntary.

Another way of characterizing Edwards' concept is to understand that it coheres with the prelapsarian and the postlapsarian human condition. Before the fall into sin, humans were free to choose good, but, after the fall, although the freedom of the will to choose remained much the same, the ability to make a good

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<sup>43</sup> WJE 1:164.

<sup>44</sup> See G.M. Marsden, *Jonathan Edwards*, 442.

<sup>45</sup> K. Krause suggested that this approach makes Edwards' concept relevant for today. 'Jonathan Edwards' Beitrag zum Freiheitsdiskurs,' *Theologische Zeitschrift* 68/2 (2012), 139-162, 144-148.

<sup>46</sup> WJE 1:307-308. In the tradition after Edwards the 'Exercisers' concentrated evil only in the will, M.J. McClymond and G.R. Dermott, *The Theology of Jonathan Edwards*, 608.

choice changed. This means that it is not sin as such that destroyed the human will as a faculty and as the ability to choose; because of the depravity of human heart, human beings voluntarily choose sin and are bound by sin. The remaining part of human infrastructure also has consequences for the understanding of the soteriological work of the Spirit. The saving work of the Spirit does not create a new faculty which offers the possibility of choice, but the change effected by the Spirit provides the ability to choose good again. Thus, the work of the Spirit can be interpreted as the liberation of the bound will. This leads to the paradox that in the eschaton believers experience the greatest liberty whilst still requiring virtue.<sup>47</sup>

It can be concluded that in this life sinning is necessary because of moral inability, but this necessity of sin does not destroy the 'technical' freedom of the will and the responsibility for sin. While Arminians denied human responsibility for sin given the necessity of sin, Edwards took the opposite position that the necessity of sin is not inconsistent with the responsibility for sin. This conclusion can be taken one step further. The Arminians rejected the mechanic worldview and accepted libertarianism because they lacked the philosophical tools to qualify necessity and, according to their understanding the order of cause and effect would imply the denial of human freedom. Because Edwards was able to qualify necessity, on the one hand he could accept the mechanic worldview and on the other, he was able to interpret morality and responsibility within the framework of human freedom.

## 2. Edwards' holistic anthropology

In Edwards' understanding, the libertarian concept of free will implies that man is truly free when he is not under any necessity to act. To achieve this freedom, Arminians isolate the will from the totality of the human personality. This isolation of the will also means that the functioning of the will is reduced to the moment of choosing, implying that choosing and willing are accidental happenings.<sup>48</sup> One implication of this approach is that only the pure act of the will values the act of the will; the act of will is praised or blamed not the habit or inclination that caused the act of the will or the deeds that are themselves in turn caused by the act of will.<sup>49</sup> Another implication of this conviction is that the habit or disposition of the soul does not add to the value of virtue or vice.<sup>50</sup> This means that,

<sup>47</sup> WJE 1:364. Edwards understands the Christian life as an eschatological life, WJE 4:236-237. Edwards also argues with the necessity of God's and Christ's holy nature, see P.J. Fisk, 'Jonathan Edwards' *Freedom of the Will* and his defense of the impeccability of Jesus Christ,' in *Scottish Journal of Theology* 60/3 (2007), 309-325.

<sup>48</sup> WJE 1:303-304.

<sup>49</sup> WJE 1:325.

<sup>50</sup> WJE 1:324, 329-330.

while a bad heart is an excuse for vice, having a heart with a good disposition does not imply virtue. Therefore, the characteristic of this libertarian concept of free will is indifference.<sup>51</sup> Edwards' criticism is directed at this indifference, saying it is characteristic of the self-determining will:

'Those notions of liberty of contingency, indifference and self-determination, as essential to guilt or merit, tend to preclude all sense of any great guilt for past and present wickedness (...). All wickedness of heart is excused as what, in itself, brings no guilt.'<sup>52</sup>

Edwards' criticism is directed at two aspects of this concept of freedom. In the first place, he criticizes the concept's ineffectiveness<sup>53</sup> which can be illustrated by the example of seeing a friend in need. The libertarian concept of freedom would, according to Edwards, imply being indifferent towards this friend and that preference is given to a cold heart above a compassionate one. In this way, instead of upholding responsibility and morality, the concept of libertarian freedom leads to the denial of responsibility and morality. This proves that this concept of freedom is not only ineffective, but that it would produce the opposite of the desired attitude.

Secondly, Edwards criticizes the Arminian concept of freedom because of its inconsistency. According to the Arminian understanding of freedom, people should not be influenced by exhortative language such as commandments, promises, warnings, invitations and exhortations, because this language undermines freedom by taking away the indifference of the will. But, according to Edwards, taking away this exhortative language would go against common sense. It should also be noted here that exhortative language appeals to the virtuous character of obedience, which would be annihilated by a will exhibiting total indifference.<sup>54</sup> If one's action is not caused by reasons, then the action is random or arbitrary and is hardly an action at all.

This conclusion has a far reaching implication. While the Arminians of Edwards' time understood this libertarian version of the concept of freedom as being essential to responsibility and morality, Edwards interpreted it in the reverse. Instead of promoting morality and responsibility, the Arminian concept of liberty would actually undermine it, because of its conviction that the concept of contingent and indifferent self-determination is the only possible form of real freedom.

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<sup>51</sup> WJE 1:303-304.

<sup>52</sup> WJE 16:722.

<sup>53</sup> WJE 1:320-323.

<sup>54</sup> WJE 1:331.

Edwards' alternative to the libertarian concept of freedom is the concept of the habitual dispositions of the heart. This concept offers the possibility of exploring moral causes, motives and inducements on the one hand and voluntariness as an expression of freedom on the other.<sup>55</sup> Edwards described the characteristics of his alternative concept as follows:

If strict propriety of speech is to be insisted on, it may more properly be said, that the voluntary action which is the immediate consequence and fruit of the mind's volition or choice, is determined by that which appears most agreeable, than the preference or choice itself, but that the act of volition itself is always determined by that in or about the mind's view of the object, which causes it to appear most agreeable. I say 'in or about the mind's view of the object', because what has influence to render an object in view agreeable is not only to what appears in the object viewed, but also the manner of the view, and the state and circumstances of the mind that views. Particularly, to enumerate all things pertaining to the mind's view of the objects of volition, which have influence in their appearance to the mind, would be a matter of no small difficulty, and might require a treatise by itself, and is not necessary to my present purpose.<sup>56</sup>

In Edwards' approach the human will is not understood as an independent faculty as a source of choices and desires, but as an instrumental function of human personality, namely the ability to make the inclination of the heart effective, for example, at times of choice or in our daily behaviour. Edwards' alternative makes it impossible for an independent indifferent human to make choices that go against the strongest inclinations of the human heart.

Edwards' approach did not only differ from the Arminian one, but also represented a redefining of the relationship of will and intellect in his own puritan tradition. In this tradition a hierarchical order of the faculties of the mind, the will and the affections was common. Edwards however, had arrived at a whole new understanding of anthropology, one in which the two faculties of mind and will were equally ordered.<sup>57</sup> Because the affections are included in the will, this concept leads to a less intellectualistic and more voluntaristic and intuitive anthropology, one which also implies that the intensity of the affections is an indication

<sup>55</sup> WJE 1:156-157.

<sup>56</sup> WJE 1:144-145. It is noteworthy that God acts also according his nature. In that sense, He is not free. O.D. Crisp, *Jonathan Edwards on God and Creation* (Oxford: Oxford Univ. Press, 2012), 69-73.

<sup>57</sup> WJE 1:217; 2:96. See also M.J. McClymond and G.R. McDermott, *The Theology of Jonathan Edwards*, 311-318. P. Ramsey shows the relationship with John Locke, WJE 1:49.

of the intensity of religion in the soul.<sup>58</sup> Furthermore Edwards is a holistic thinker who does not understand the human mind and the human will as isolated faculties, but understands the distinction between the modes of operation of the human soul more analytically than actually.<sup>59</sup>

### 3. Towards a retrieval of Edwards's concept

In this section we investigate how a retrieval or revitalisation of Edwards' concept can be useful in the present debate. In the first place Edwards' concept shares a common framework with deterministic neuroscience. Both Edwards and neuroscience understand the libertarian concept of free will and its concomitant implication that the will is indifferent as too simple a concept for describing the complex reality of human choices and dispositions and that human will must be understood as a determined will, because of the order of cause and effect. This implies that Edwards' theological and philosophical concept of free will does not undermine the neuroscientific approach but includes it. This common general framework makes Edwards a suitable partner from history for this present debate.

Secondly, Jonathan Edwards' concept proves that accepting the deterministic mechanistic world view does not necessarily imply incompatibilism. This confirms the suitability of Edwards as a partner in the current debate, because many critics of neuroscience and its implied view of the human will cannot accept determinism, because they interpret it as being incompatible with human freedom. Because of the coherence of human freedom on the one hand and human morality and responsibility on the other, they deny any determinism and accept libertarianism. In this context Edwards occupies a mediate position offering an alternative position that does not necessarily exclude determinism or free will. In this way, Edwards' concept supports neuroscientific approaches, because he maintains determinism and necessity. On the other hand, Edwards' concept supports thinkers who want to uphold human freedom, morality and responsibility, because Edwards defends freedom as the spontaneity and voluntariness of the will. Against the argument that determinism and necessity would dehumanize human beings and reduce them to machines, Edwards replied that the existence of human understanding and will are good enough reasons for upholding humanity, at the same time clarifying that the reproach attacks the libertarians themselves. According to Edwards, libertarians reduce human beings to less than a machine, because unlike Edwards who states that humans are led by human intelligence, they understand the human will as being led by nothing<sup>60</sup>

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<sup>58</sup> WJE 2:96, 100; 3:375; 4:297; 16:717.

<sup>59</sup> See M.J. McClymond and G.R. McDermott, *The Theology of Jonathan Edwards*, 314.

<sup>60</sup> WJE 1:371.

Thirdly, in Edwards' worldview materialism is transformed into a more dimensional reality and physics are included in a metaphysical worldview. The neuroscientific approach brings us into contact with physicalism, an approach that interprets reality as a closed physical system. The difference between physicalism and metaphysics is the difference between compatibilism and incompatibilism. This difference is of great importance, because it coheres with human self-understanding and identity with respect to understanding human beings as being with or without free will. But what does physicalism mean? The case for reductive-physicalism is not strong; one cannot explain football solely in terms of neurology. This is not the case with non-reductive physicalism, which states that the human mind operates at a higher level of complexity and cannot be directly reduced to physical conditions; it does imply, however, that mental states are a by-product of the physical brain-state and that mental causation is excluded.

Some work has been done to deal with these most difficult questions concerning physicalism. Alva Noë has made a significant contribution, arguing that human consciousness cannot be interpreted as the passive registration of an automatically working machine, but that it involves active interaction between the brain and the world, facilitated by the bodily senses.<sup>61</sup> Keizer agrees with Noë that a human being is not a brain, but has a brain, because a human being cannot be reduced to brain processes.<sup>62</sup> At the same time, he criticizes Noë for the lack of a concept of experience for taste, pain, fear, hunger, joy or nostalgia, because such a concept would clarify the fundamental difference between robots and human beings.<sup>63</sup> Neurons are bearers of feelings, but neurons, in themselves, do not have feelings and cannot be identified with feelings.<sup>64</sup>

Noë paved the way for Steven Horst, whose research takes us another step further against neurodeterminism.<sup>65</sup> Horst argued that neuroscientific laws cannot be seen as physical laws, because physical laws are related to a small number of influences, while neuroscientific or psychological laws are far more complicated.<sup>66</sup> Horst reached this view by arguing that human cognitive processes cannot be understood as universal laws which have no exceptions, because our mind is actively

<sup>61</sup> A. Noë, *Out of Our Heads: Why You Are Not Your Brain, and Other Lessons from the Biology of Consciousness* (New York: Farrar, Straus and Giroux, 2009). According to W. Achtner, *Willensfreiheit*, 230-231, Thomas Fuchs understands the human brain as an integrative organ between personality, body, social environment and culture. Human will is not a link in a chain, but part of a network.

<sup>62</sup> B. Keizer, *Waar blijft de ziel?*, 118-127.

<sup>63</sup> B. Keizer, *Waar blijft de ziel?*, 132-133, 136-138.

<sup>64</sup> B. Keizer, *Waar blijft de ziel?*, 143.

<sup>65</sup> S. Horst, *Laws, Mind and Free Will* (Cambridge, MA: MIT press, 2011).

<sup>66</sup> This way of reasoning is also used by R. Swinburne, *Mind, Brain & Free Will* (Oxford: Oxford Univ. Press, 2013), 188-204.



involved in the cognitive process. Our cognitive representations of the world are not simply mirror images of the objective reality of the world; our active minds create several models for understanding the world, models which cannot cohere with each other or be reduced to a single super-model of the world. The existence of these several models in the human mind is the reason for its complexity and evidence enough for believing neurodeterminism to be false.

This development appears to break open the closed physical world of brains. In this context, Raymond Tallis and Roger Scruton have defended intentionality, which cannot be explained and understood in causal scientific terms because, in the concept of intentionality, the human being is not only an organism, but is also an active agent.<sup>67</sup> This means that human actions are not caused, and could not be caused, in the narrow, atomic linear sense which is implied in the term 'cause.'<sup>68</sup> This is a confirmation of freedom as a transcendent notion.

But does this reveal any openness to the concept of the human soul? Keizer closes his book with an implicit plea for the existence of the human soul, but appears to dislike this conclusion, because he cannot accept the Cartesian dualism of soul and body.<sup>69</sup> Serious criticism has been levied against Cartesian dualism, from both neuroscience and theology, because it cannot explain whether having a damaged brain implies having a damaged mind.<sup>70</sup> Other objections to this extreme dualism are that dualism cannot be falsified by empirical data, it fails to identify 'mental substance,' and it is not yet clear how a non-material entity acts in the material world.<sup>71</sup> In addition to this problem, there is also the question about whether the influence of the non-material world could be tested empirically.

This proves that a concept of the human soul cannot be developed within Cartesian dualism, but does not indicate that we do not have to think about a concept for the human soul. This research illustrates that we are not to be enclosed in physicalism. Edwards' distinction between metaphysics and physics offers a midway position between physical monism, on the one hand, and Cartesian dualism on the other,<sup>72</sup> namely, a duality within a coherent reality to guarantee human

<sup>67</sup> R. Scruton, 'Neurononsense and the Soul', in: J. Wentzel van Huyssteen & E. Wiebe (eds.), *In Search of Self: Interdisciplinary Perspectives on Personhood* (Grand Rapids: Eerdmans, 2012), 338-356; R. Tallis, *Aping Mankind*. See W. Achtner, *Willensfreiheit*, 230, for the denial of intentionality in neuroscience.

<sup>68</sup> R. Tallis, *Aping Mankind*, 251.

<sup>69</sup> For an investigation of the different models of the relationship between body and soul, see H. Goller, *Das Rätsel von Körper und Geist. Eine philosophische Deutung* (Darmstadt: Wissenschaftliche Buchgesellschaft, 2003).

<sup>70</sup> See K. Augustine, 'Book Review: Whatever Happened to the Soul?' [http://infidels.org/library/modern/keith\\_augustine/no-soul.html](http://infidels.org/library/modern/keith_augustine/no-soul.html), 4 [last accessed 4 July 2012].

<sup>71</sup> See A. J. Gijsbers, 'The Dialogue between Neuroscience and Theology', 7.

<sup>72</sup> For Edwards' criticism of Descartes, see N. Fiering, 'The Rationalistic Foundations of Jonathan Edwards's Metaphysics,' in: N.O. Hatch and H.S. Stout (eds.), *Jonathan Edwards and the American Ex-*

freedom, responsibility and morality.<sup>73</sup>

### *Considerations*

Besides revitalizing Edwards' concept of free will for the present context, the arguments in this essay also point to some other considerations which add to the current debate about free will in the context of the meeting of theology and science.

Firstly, one interesting aspect is that theologians, philosophers and neurobiologists are all equally interested in the problem of free will.<sup>74</sup> Theologians and philosophers have to acknowledge that they need neurobiological facts and understanding, and that universally-held intuitions may not necessarily be true. Neuroscientists can ask theologians difficult questions, such as: Can a non-material entity exert influence on the material brain, without this being identified by empirical tests? These questions should be taken seriously. At the same time, neuroscientists have to recognize that questions about human identity cannot be solved by the knowledge of neuroscience, but that the theological and philosophical wisdom of ages is also necessary if we are to understand human beings. If scientific conclusions go against basic intuitions honored over centuries, science has to be aware of not overestimating itself, especially when its conclusions do not concern the material dimension of this world or human life, but the existential level of human life. Philosophical reflection on the essence and the limitations of science can be helpful in rescuing human liberty from the slavery of science, because science is not the only fountain of knowledge.

Secondly, from the research in this article we have learned that Edwards and neuroscientists use different definitions of free will. This phenomenon is representative of the current debate on free will. Within the context of free will as an anthropological category, different approaches are imaginable. Free will can be understood as an alternative possibility, as voluntariness, as an immediate decision, as a long-term intellectual and moral deliberation, as freedom from compulsion, as responsibility, self-realization or consciousness. Even in the Oxford handbook of free will, one searches in vain for a definition of free will.<sup>75</sup> This lack

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*perience* (Oxford: Oxford Univ. Press, 1988), 73-101, 77-78; A. Zakai, *Jonathan Edwards's Philosophy of Nature: The Re-enchantment of the World in the age of Scientific Reasoning* (London: T&T Clark, 2010), 27.

<sup>73</sup> G.H. Labooy pleads for metaphysics, the interaction between body and mind, and a certain independence of the mind. *Waar geest is, is vrijheid*, 101-138, 262. Meanwhile, there is a new plea for the existence of a human soul: see R. Swinburne, *Mind, Brain & Free Will*; C.J. Hazen (ed.), *Neuroscience and the soul. Philosophical issues*, a special issue of *Philosophia Christi*, 15, no. 1 (2013).

<sup>74</sup> W. Achtner, *Willensfreiheit*, 223 pleads for a mutual relationship between neuroscience and theology.

<sup>75</sup> P. Haggard criticizes common sense understandings of free will, but he does not give an alternative. 'Human volition: towards a neuroscience of will', in: *Nature Reviews Neuroscience*, 9/12 (2008), 934-946.

of clarity about free will clouds the current debate. People can agree or disagree without really understanding each other. This confusion does not help the academic debate move forward. Only by carefully listening to each other can people really discuss issues among themselves and arguments be nuanced and refined so that a deeper understanding of the theme of free will can be achieved.

This leads to the following, and final, remark about Edwards' and the neuroscientists' definition of free will. Neurobiologists use the objective Principle of Alternative Possibilities as an interpretative framework to support their position on free will, but Edwards interprets free will in the subjective anthropological framework of consciousness, responsibility and self-realisation. Edwards' approach can be criticized and nuanced, but it can easily be seen that the difference between Edwards and the neurobiologists is closely related to the difference in the interpretative frameworks of free will that they use, namely the difference between the objective and subjective approach of the concept of free will. Differences in definition do not exclude representatives of both positions from understanding and agreeing with each other. It is thought that neuroscientists can agree with Edwards and that, despite physical determinism, people generally act voluntarily, or at least are able to act voluntarily. The question remains as to whether this aspect of free will, its voluntariness, will enable neuroscientists to enter the discussion, but what is clear, is that it did enable Edwards to uphold responsibility and morality.<sup>76</sup> This reveals one of the themes of the current debate about free will, and indicates that any contemporary debate could be furthered by a better understanding of historical concepts such as Edwards'.

#### A b s t r a c t

The tendency in modern neuroscience is to deny free will, due to a deterministic understanding of reality. The consequence of the denial of free will is also the denial of responsibility, morality and accountability. Jonathan Edwards understood reality also in a deterministic way, but he defended free will. This makes his concept very interesting for the current debate. In the essay about the "Retrieval of Edwards' Concept of Free Will." The relevance for today is investigated as an interdisciplinary attempt between theology, philosophy and neuroscience.

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<sup>76</sup>H.G. Frankfurt would agree with Edwards' compatibilism, however he argues in another way. 'Alternate Possibilities and Moral Responsibility', in: *Journal of Philosophy*, 66 (1969), 829-839. H.G. Frankfurt defends 'volitional necessity' or 'wholeheartedness', *Necessity, Volition and Love* (New York: Cambridge University Press, 1998).