

# **William of Ockham**

[en.wikipedia.org](https://en.wikipedia.org)

March 20, 2022

On the 28th of April 2012 the contents of the English as well as German Wikibooks and Wikipedia projects were licensed under Creative Commons Attribution-ShareAlike 3.0 Unported license. A URI to this license is given in the list of figures on page 49. If this document is a derived work from the contents of one of these projects and the content was still licensed by the project under this license at the time of derivation this document has to be licensed under the same, a similar or a compatible license, as stated in section 4b of the license. The list of contributors is included in chapter Contributors on page 33. The licenses GPL, LGPL and GFDL are included in chapter Licenses on page 53, since this book and/or parts of it may or may not be licensed under one or more of these licenses, and thus require inclusion of these licenses. The licenses of the figures are given in the list of figures on page 49. This PDF was generated by the L<sup>A</sup>T<sub>E</sub>X typesetting software. The L<sup>A</sup>T<sub>E</sub>X source code is included as an attachment (`source.7z.txt`) in this PDF file. To extract the source from the PDF file, you can use the `pdfdetach` tool including in the `poppler` suite, or the <http://www.pdflabs.com/tools/pdftk-the-pdf-toolkit/> utility. Some PDF viewers may also let you save the attachment to a file. After extracting it from the PDF file you have to rename it to `source.7z`. To uncompress the resulting archive we recommend the use of <http://www.7-zip.org/>. The L<sup>A</sup>T<sub>E</sub>X source itself was generated by a program written by Dirk Hünniger, which is freely available under an open source license from [http://de.wikibooks.org/wiki/Benutzer:Dirk\\_Huenniger/wb2pdf](http://de.wikibooks.org/wiki/Benutzer:Dirk_Huenniger/wb2pdf).

# Contents

<b>1</b>	<b>William of Ockham</b>	<b>3</b>
1.1	Life . . . . .	4
1.2	Philosophical thought . . . . .	5
1.3	Literary Ockhamism/nominalism . . . . .	17
1.4	Works . . . . .	19
1.5	In fiction . . . . .	23
1.6	See also . . . . .	24
1.7	Notes . . . . .	24
1.8	References . . . . .	24
1.9	Further reading . . . . .	28
1.10	External links . . . . .	30
<b>2</b>	<b>Contributors</b>	<b>33</b>
<b>List of Figures</b>		<b>49</b>
<b>3</b>	<b>Licenses</b>	<b>53</b>
3.1	GNU GENERAL PUBLIC LICENSE . . . . .	53
3.2	GNU Free Documentation License . . . . .	54
3.3	GNU Lesser General Public License . . . . .	55



# 1 William of Ockham

English Franciscan friar and theologian (c. 1287 – 10 April 1347)

## William of Ockham OFM

William of Ockham depicted on a stained glass window at a church

**Born** 1285 [*citation needed*]

Ockham, Surrey, England

**Died** 4 October 1347 (aged 61–62)  
[*citation needed*]

Munich, Duchy of Bavaria,  
Holy Roman Empire

**Educa-  
tion** Greyfriars, London<sup>[1]</sup>

**Alma mate** University of Oxford<sup>[2][3]</sup>

**Notable  
work** *Summa Logicae*

**Era** 14th-century philosophy  
Medieval philosophy

**Region** Western philosophy

**School** Scholasticism

Occamism

Nominalism<sup>[a]</sup>

Theological voluntarism<sup>[4]</sup>

**Main  
interests**

- Natural philosophy
- metaphysics
- epistemology
- theology
- logic
- ontology
- politics

**Notable  
ideas** Occam's razor

Nominalism

Empiricism<sup>[5]</sup>

**William of Ockham** (/ˈɒkəm/<sup>1</sup>; also **Occam**, from Latin<sup>2</sup>: *Gulielmus Occamus*;<sup>[9][10]</sup> c. 1287 – 10 April 1347) was an English Franciscan friar<sup>3</sup>, scholastic<sup>4</sup> philosopher<sup>5</sup>, and theologian, who is believed to have been born in Ockham<sup>6</sup>, a small village in Surrey<sup>7</sup>.<sup>[11]</sup> He is considered to be one of the major figures of medieval thought<sup>8</sup> and was at the centre of the major intellectual and political controversies of the 14th century. He is commonly known for Occam's razor<sup>9</sup>, the methodological principle that bears his name, and also produced significant works on logic<sup>10</sup>, physics<sup>11</sup>, and theology<sup>12</sup>. William is remembered<sup>13</sup> in the Church of England<sup>14</sup> with a commemoration<sup>15</sup> on 10 April<sup>16</sup>.<sup>[12]</sup>

## 1.1 Life

William of Ockham was born in Ockham, Surrey<sup>17</sup> in 1287.<sup>[citation needed<sup>18</sup>]</sup> He received his elementary education in the London House of the Greyfriars<sup>19</sup>.<sup>[13]</sup> It is believed that he then studied theology at the University of Oxford<sup>20[2][3]</sup> from 1309 to 1321,<sup>[14]</sup> but while he completed all the requirements for a master's degree in theology, he was never made a regent master<sup>21</sup>.<sup>[15]</sup> Because of this, he acquired the honorific title *Venerabilis Inceptor*, or "Venerable Beginner" (an *inceptor* was a student formally admitted to the ranks of teachers by the university authorities).<sup>[16]</sup>

During the Middle Ages<sup>22</sup>, theologian Peter Lombard<sup>23</sup>'s *Sentences*<sup>24</sup> (1150) had become a standard work of theology, and many ambitious theological scholars wrote commentaries on it.<sup>[17]</sup> William of Ockham was among these scholarly commentators. However, William's commentary was not well received by his colleagues, or by the Church authorities.<sup>[18]</sup> In 1324, his commentary was condemned as unorthodox by a synod<sup>25</sup> of bishops,<sup>[citation needed<sup>26</sup>]</sup> and he was ordered to Avignon<sup>27</sup>, France, to defend himself before a papal court.<sup>[17]</sup>

- 
- 1 <https://en.wikipedia.org/wiki/Help:IPA/English>
  - 2 [https://en.wikipedia.org/wiki/Latin\\_language](https://en.wikipedia.org/wiki/Latin_language)
  - 3 [https://en.wikipedia.org/wiki/Franciscan\\_friar](https://en.wikipedia.org/wiki/Franciscan_friar)
  - 4 <https://en.wikipedia.org/wiki/Scholasticism>
  - 5 <https://en.wikipedia.org/wiki/Philosopher>
  - 6 [https://en.wikipedia.org/wiki/Ockham,\\_Surrey](https://en.wikipedia.org/wiki/Ockham,_Surrey)
  - 7 <https://en.wikipedia.org/wiki/Surrey>
  - 8 [https://en.wikipedia.org/wiki/Medieval\\_philosophy](https://en.wikipedia.org/wiki/Medieval_philosophy)
  - 9 [https://en.wikipedia.org/wiki/Occam%27s\\_razor](https://en.wikipedia.org/wiki/Occam%27s_razor)
  - 10 <https://en.wikipedia.org/wiki/Logic>
  - 11 <https://en.wikipedia.org/wiki/Physics>
  - 12 <https://en.wikipedia.org/wiki/Theology>
  - 13 [https://en.wikipedia.org/wiki/Calendar\\_of\\_saints\\_\(Church\\_of\\_England\)](https://en.wikipedia.org/wiki/Calendar_of_saints_(Church_of_England))
  - 14 [https://en.wikipedia.org/wiki/Church\\_of\\_England](https://en.wikipedia.org/wiki/Church_of_England)
  - 15 [https://en.wikipedia.org/wiki/Commemoration\\_\(observance\)](https://en.wikipedia.org/wiki/Commemoration_(observance))
  - 16 [https://en.wikipedia.org/wiki/April\\_10](https://en.wikipedia.org/wiki/April_10)
  - 17 [https://en.wikipedia.org/wiki/Ockham,\\_Surrey](https://en.wikipedia.org/wiki/Ockham,_Surrey)
  - 19 [https://en.wikipedia.org/wiki/Greyfriars,\\_London](https://en.wikipedia.org/wiki/Greyfriars,_London)
  - 20 [https://en.wikipedia.org/wiki/University\\_of\\_Oxford](https://en.wikipedia.org/wiki/University_of_Oxford)
  - 21 [https://en.wikipedia.org/wiki/Regent\\_master](https://en.wikipedia.org/wiki/Regent_master)
  - 22 [https://en.wikipedia.org/wiki/Middle\\_Ages](https://en.wikipedia.org/wiki/Middle_Ages)
  - 23 [https://en.wikipedia.org/wiki/Peter\\_Lombard](https://en.wikipedia.org/wiki/Peter_Lombard)
  - 24 <https://en.wikipedia.org/wiki/Sentences>
  - 25 <https://en.wikipedia.org/wiki/Synod>
  - 27 <https://en.wikipedia.org/wiki/Avignon>

An alternative understanding, recently proposed by George Knysh, suggests that he was initially appointed in Avignon as a professor of philosophy in the Franciscan school, and that his disciplinary difficulties did not begin until 1327.<sup>[19]</sup> It is generally believed that these charges were levied by Oxford chancellor<sup>28</sup> John Lutterell<sup>29</sup>.<sup>[20][21]</sup> The Franciscan Minister General<sup>30</sup>, Michael of Cesena<sup>31</sup>, had been summoned to Avignon, to answer charges of heresy. A theological commission had been asked to review his *Commentary on the Sentences*, and it was during this that William of Ockham found himself involved in a different debate. Michael of Cesena had asked William to review arguments surrounding Apostolic poverty<sup>32</sup>. The Franciscans believed that Jesus<sup>33</sup> and his apostles<sup>34</sup> owned no property either individually or in common, and the Rule of Saint Francis<sup>35</sup> commanded members of the order to follow this practice.<sup>[22]</sup> This brought them into conflict with Pope John XXII<sup>36</sup>.

Because of the pope's attack on the Rule of Saint Francis, William of Ockham, Michael of Cesena<sup>37</sup> and other leading Franciscans fled Avignon on 26 May 1328, and eventually took refuge in the court of the Holy Roman Emperor<sup>38</sup> Louis IV of Bavaria<sup>39</sup>, who was also engaged in dispute with the papacy, and became William's patron.<sup>[17]</sup> After studying the works of John XXII and previous papal statements, William agreed with the Minister General. In return for protection and patronage William wrote treatises that argued for emperor Louis to have supreme control over church and state in the Holy Roman Empire.<sup>[17]</sup> "On June 6, 1328, William was officially excommunicated for leaving Avignon without permission,"<sup>[15]</sup> and William argued that John XXII was a heretic for attacking the doctrine of Apostolic poverty and the Rule of Saint Francis, which had been endorsed by previous popes.<sup>[15]</sup> William of Ockham's philosophy was never officially condemned as heretical.<sup>[15]</sup>

He spent much of the remainder of his life writing about political issues, including the relative authority and rights of the spiritual and temporal powers. After Michael of Cesena<sup>40</sup>'s death in 1342, William became the leader of the small band of Franciscan dissidents living in exile with Louis IV. William of Ockham died (prior to the outbreak of the plague) on 9 April 1347.<sup>[23]</sup>

## 1.2 Philosophical thought

---

28 [https://en.wikipedia.org/wiki/Chancellor\\_of\\_the\\_University\\_of\\_Oxford](https://en.wikipedia.org/wiki/Chancellor_of_the_University_of_Oxford)

29 [https://en.wikipedia.org/wiki/John\\_Lutterell](https://en.wikipedia.org/wiki/John_Lutterell)

30 [https://en.wikipedia.org/wiki/Franciscan\\_Minister\\_General](https://en.wikipedia.org/wiki/Franciscan_Minister_General)

31 [https://en.wikipedia.org/wiki/Michael\\_of\\_Cesena](https://en.wikipedia.org/wiki/Michael_of_Cesena)

32 [https://en.wikipedia.org/wiki/Apostolic\\_poverty](https://en.wikipedia.org/wiki/Apostolic_poverty)

33 [https://en.wikipedia.org/wiki/Jesus\\_Christ](https://en.wikipedia.org/wiki/Jesus_Christ)

34 [https://en.wikipedia.org/wiki/Apostles\\_in\\_the\\_New\\_Testament](https://en.wikipedia.org/wiki/Apostles_in_the_New_Testament)

35 [https://en.wikipedia.org/wiki/Rule\\_of\\_Saint\\_Francis](https://en.wikipedia.org/wiki/Rule_of_Saint_Francis)

36 [https://en.wikipedia.org/wiki/Pope\\_John\\_XXII](https://en.wikipedia.org/wiki/Pope_John_XXII)

37 [https://en.wikipedia.org/wiki/Michael\\_of\\_Cesena](https://en.wikipedia.org/wiki/Michael_of_Cesena)

38 [https://en.wikipedia.org/wiki/Holy\\_Roman\\_Emperor](https://en.wikipedia.org/wiki/Holy_Roman_Emperor)

39 [https://en.wikipedia.org/wiki/Louis\\_IV\\_of\\_Bavaria](https://en.wikipedia.org/wiki/Louis_IV_of_Bavaria)

40 [https://en.wikipedia.org/wiki/Michael\\_of\\_Cesena](https://en.wikipedia.org/wiki/Michael_of_Cesena)



Part of a series<sup>41</sup> on  
**Catholic philosophy**<sup>42</sup>  
Aquinas<sup>43</sup>, Scotus<sup>44</sup>, and Ockham  
**Ethics**<sup>45</sup>

- Cardinal virtues<sup>46</sup>
- Just price<sup>47</sup>
- Just war<sup>48</sup>
- Principle of Double Effect<sup>49</sup>
- Probabilism<sup>50</sup>
- Natural law<sup>51</sup>
- Personalism<sup>52</sup>
- Social teaching<sup>53</sup>
- Virtue ethics<sup>54</sup>

**Metaphysics**<sup>55</sup>

---

41 [https://en.wikipedia.org/wiki/Category:Catholic\\_philosophers](https://en.wikipedia.org/wiki/Category:Catholic_philosophers)

42 [https://en.wikipedia.org/wiki/Christian\\_philosophy](https://en.wikipedia.org/wiki/Christian_philosophy)

43 [https://en.wikipedia.org/wiki/Thomas\\_Aquinas](https://en.wikipedia.org/wiki/Thomas_Aquinas)

44 [https://en.wikipedia.org/wiki/Duns\\_Scotus](https://en.wikipedia.org/wiki/Duns_Scotus)

45 [https://en.wikipedia.org/wiki/Catholic\\_moral\\_theology](https://en.wikipedia.org/wiki/Catholic_moral_theology)

46 [https://en.wikipedia.org/wiki/Cardinal\\_virtues](https://en.wikipedia.org/wiki/Cardinal_virtues)

47 [https://en.wikipedia.org/wiki/Just\\_price](https://en.wikipedia.org/wiki/Just_price)

48 [https://en.wikipedia.org/wiki/Just\\_war\\_theory#Catholic\\_doctrine](https://en.wikipedia.org/wiki/Just_war_theory#Catholic_doctrine)

49 [https://en.wikipedia.org/wiki/Principle\\_of\\_Double\\_Effect](https://en.wikipedia.org/wiki/Principle_of_Double_Effect)

50 [https://en.wikipedia.org/wiki/Catholic\\_probabilism](https://en.wikipedia.org/wiki/Catholic_probabilism)

51 [https://en.wikipedia.org/wiki/Natural\\_law#Catholic\\_natural\\_law\\_jurisprudence](https://en.wikipedia.org/wiki/Natural_law#Catholic_natural_law_jurisprudence)

52 [https://en.wikipedia.org/wiki/Catholic\\_personalism](https://en.wikipedia.org/wiki/Catholic_personalism)

53 [https://en.wikipedia.org/wiki/Catholic\\_social\\_teaching](https://en.wikipedia.org/wiki/Catholic_social_teaching)

54 [https://en.wikipedia.org/wiki/Virtue\\_ethics](https://en.wikipedia.org/wiki/Virtue_ethics)

55 <https://en.wikipedia.org/wiki/Metaphysics>

- Conceptualism<sup>56</sup>
- Realism<sup>57</sup>
- Moderate realism<sup>58</sup>
- Nominalism<sup>59</sup>
- Quiddity<sup>60</sup> (essence<sup>61</sup> / nature<sup>62</sup>)
- Haecceity<sup>63</sup>
- Quinque Viae<sup>64</sup>
- Predestination<sup>65</sup>
- Free Will<sup>66</sup>
- Divine Attributes<sup>67</sup>

## Schools

- Augustinianism<sup>68</sup>
- Cartesianism<sup>69</sup>
- Molinism<sup>70</sup>
- Nouvelle théologie<sup>71</sup>
- Occamism<sup>72</sup>
- Salamanca<sup>73</sup>
- Scholasticism<sup>74</sup>
  - Neo-scholasticism<sup>75</sup>
- Scotism<sup>76</sup>
- Thomism<sup>77</sup>

## Philosophers<sup>78</sup>

---

56 <https://en.wikipedia.org/wiki/Conceptualism>  
57 [https://en.wikipedia.org/wiki/Philosophical\\_realism](https://en.wikipedia.org/wiki/Philosophical_realism)  
58 [https://en.wikipedia.org/wiki/Moderate\\_realism](https://en.wikipedia.org/wiki/Moderate_realism)  
59 <https://en.wikipedia.org/wiki/Nominalism>  
60 <https://en.wikipedia.org/wiki/Quiddity>  
61 <https://en.wikipedia.org/wiki/Essence>  
62 [https://en.wikipedia.org/wiki/Nature\\_\(philosophy\)](https://en.wikipedia.org/wiki/Nature_(philosophy))  
63 <https://en.wikipedia.org/wiki/Haecceity>  
64 [https://en.wikipedia.org/wiki/Quinque\\_Viae](https://en.wikipedia.org/wiki/Quinque_Viae)  
65 <https://en.wikipedia.org/wiki/Predestination>  
66 [https://en.wikipedia.org/wiki/Free\\_Will#In\\_theology](https://en.wikipedia.org/wiki/Free_Will#In_theology)  
67 [https://en.wikipedia.org/wiki/Attributes\\_of\\_God\\_in\\_Christianity](https://en.wikipedia.org/wiki/Attributes_of_God_in_Christianity)  
68 <https://en.wikipedia.org/wiki/Augustinianism>  
69 <https://en.wikipedia.org/wiki/Cartesianism>  
70 <https://en.wikipedia.org/wiki/Molinism>  
71 [https://en.wikipedia.org/wiki/Nouvelle\\_th%C3%A9ologie](https://en.wikipedia.org/wiki/Nouvelle_th%C3%A9ologie)  
72 <https://en.wikipedia.org/wiki/Occamism>  
73 [https://en.wikipedia.org/wiki/School\\_of\\_Salamanca](https://en.wikipedia.org/wiki/School_of_Salamanca)  
74 <https://en.wikipedia.org/wiki/Scholasticism>  
75 <https://en.wikipedia.org/wiki/Neo-scholasticism>  
76 <https://en.wikipedia.org/wiki/Scotism>  
77 <https://en.wikipedia.org/wiki/Thomism>  
78 [https://en.wikipedia.org/wiki/List\\_of\\_Catholic\\_philosophers\\_and\\_theologians](https://en.wikipedia.org/wiki/List_of_Catholic_philosophers_and_theologians)

Ancient

- Ambrose<sup>79</sup>
- Athanasius of Alexandria<sup>80</sup>
- Augustine of Hippo<sup>81</sup>
- Benedict of Nursia<sup>82</sup>
- Boethius<sup>83</sup>
- Clement of Alexandria<sup>84</sup>
- Cyprian<sup>85</sup>
- Cyril of Alexandria<sup>86</sup>
- Gregory of Nazianzus<sup>87</sup>
- Gregory of Nyssa<sup>88</sup>
- Irenaeus<sup>89</sup>
- Jerome<sup>90</sup>
- John Cassian<sup>91</sup>
- John Chrysostom<sup>92</sup>
- John Climacus<sup>93</sup>
- John of Damascus<sup>94</sup>
- Justin Martyr<sup>95</sup>
- Maximus the Confessor<sup>96</sup>
- Pseudo-Dionysius the Areopagite<sup>97</sup>
- Origen<sup>98</sup>
- Paul the Apostle<sup>99</sup>
- Tertullian<sup>100</sup>

---

79 <https://en.wikipedia.org/wiki/Ambrose>

80 [https://en.wikipedia.org/wiki/Athanasius\\_of\\_Alexandria](https://en.wikipedia.org/wiki/Athanasius_of_Alexandria)

81 [https://en.wikipedia.org/wiki/Augustine\\_of\\_Hippo](https://en.wikipedia.org/wiki/Augustine_of_Hippo)

82 [https://en.wikipedia.org/wiki/Benedict\\_of\\_Nursia](https://en.wikipedia.org/wiki/Benedict_of_Nursia)

83 <https://en.wikipedia.org/wiki/Boethius>

84 [https://en.wikipedia.org/wiki/Clement\\_of\\_Alexandria](https://en.wikipedia.org/wiki/Clement_of_Alexandria)

85 <https://en.wikipedia.org/wiki/Cyprian>

86 [https://en.wikipedia.org/wiki/Cyril\\_of\\_Alexandria](https://en.wikipedia.org/wiki/Cyril_of_Alexandria)

87 [https://en.wikipedia.org/wiki/Gregory\\_of\\_Nazianzus](https://en.wikipedia.org/wiki/Gregory_of_Nazianzus)

88 [https://en.wikipedia.org/wiki/Gregory\\_of\\_Nyssa](https://en.wikipedia.org/wiki/Gregory_of_Nyssa)

89 <https://en.wikipedia.org/wiki/Irenaeus>

90 <https://en.wikipedia.org/wiki/Jerome>

91 [https://en.wikipedia.org/wiki/John\\_Cassian](https://en.wikipedia.org/wiki/John_Cassian)

92 [https://en.wikipedia.org/wiki/John\\_Chrysostom](https://en.wikipedia.org/wiki/John_Chrysostom)

93 [https://en.wikipedia.org/wiki/John\\_Climacus](https://en.wikipedia.org/wiki/John_Climacus)

94 [https://en.wikipedia.org/wiki/John\\_of\\_Damascus](https://en.wikipedia.org/wiki/John_of_Damascus)

95 [https://en.wikipedia.org/wiki/Justin\\_Martyr](https://en.wikipedia.org/wiki/Justin_Martyr)

96 [https://en.wikipedia.org/wiki/Maximus\\_the\\_Confessor](https://en.wikipedia.org/wiki/Maximus_the_Confessor)

97 [https://en.wikipedia.org/wiki/Pseudo-Dionysius\\_the\\_Areopagite](https://en.wikipedia.org/wiki/Pseudo-Dionysius_the_Areopagite)

98 <https://en.wikipedia.org/wiki/Origen>

99 [https://en.wikipedia.org/wiki/Paul\\_the\\_Apostle](https://en.wikipedia.org/wiki/Paul_the_Apostle)

100 <https://en.wikipedia.org/wiki/Tertullian>

## Postclassical

- Peter Abelard<sup>101</sup>
- Albertus Magnus<sup>102</sup>
- Anselm of Canterbury<sup>103</sup>
- Roger Bacon<sup>104</sup>
- Bede<sup>105</sup>
- Bernard of Clairvaux<sup>106</sup>
- Berengar of Tours<sup>107</sup>
- Bonaventure<sup>108</sup>
- Catherine of Siena<sup>109</sup>
- Duns Scotus<sup>110</sup>
- John Scotus Eriugena<sup>111</sup>
- Pope Gregory I<sup>112</sup>
- Gregory of Rimini<sup>113</sup>
- Giles of Rome<sup>114</sup>
- Hildegard of Bingen<sup>115</sup>
- Hugh of Saint Victor<sup>116</sup>
- Isidore of Seville<sup>117</sup>
- James of Viterbo<sup>118</sup>
- Jean Buridan<sup>119</sup>
- Meister Eckhart<sup>120</sup>
- Nicholas of Cusa<sup>121</sup>
- Nicole Oresme<sup>122</sup>
- Paul of Venice<sup>123</sup>
- Paschasius Radbertus<sup>124</sup>
- Peter Lombard<sup>125</sup>
- Roscellinus<sup>126</sup>
- Symeon the New Theologian<sup>127</sup>
- Thierry of Chartres<sup>128</sup>
- Thomas Aquinas<sup>129</sup>
- William of Ockham

---

101 [https://en.wikipedia.org/wiki/Peter\\_Abelard](https://en.wikipedia.org/wiki/Peter_Abelard)

102 [https://en.wikipedia.org/wiki/Albertus\\_Magnus](https://en.wikipedia.org/wiki/Albertus_Magnus)

103 [https://en.wikipedia.org/wiki/Anselm\\_of\\_Canterbury](https://en.wikipedia.org/wiki/Anselm_of_Canterbury)

104 [https://en.wikipedia.org/wiki/Roger\\_Bacon](https://en.wikipedia.org/wiki/Roger_Bacon)

105 <https://en.wikipedia.org/wiki/Bede>

106 [https://en.wikipedia.org/wiki/Bernard\\_of\\_Clairvaux](https://en.wikipedia.org/wiki/Bernard_of_Clairvaux)

107 [https://en.wikipedia.org/wiki/Berengar\\_of\\_Tours](https://en.wikipedia.org/wiki/Berengar_of_Tours)

108 <https://en.wikipedia.org/wiki/Bonaventure>

109 [https://en.wikipedia.org/wiki/Catherine\\_of\\_Siena](https://en.wikipedia.org/wiki/Catherine_of_Siena)

110 [https://en.wikipedia.org/wiki/Duns\\_Scotus](https://en.wikipedia.org/wiki/Duns_Scotus)

111 [https://en.wikipedia.org/wiki/John\\_Scotus\\_Eriugena](https://en.wikipedia.org/wiki/John_Scotus_Eriugena)

112 [https://en.wikipedia.org/wiki/Pope\\_Gregory\\_I](https://en.wikipedia.org/wiki/Pope_Gregory_I)

113 [https://en.wikipedia.org/wiki/Gregory\\_of\\_Rimini](https://en.wikipedia.org/wiki/Gregory_of_Rimini)

114 [https://en.wikipedia.org/wiki/Giles\\_of\\_Rome](https://en.wikipedia.org/wiki/Giles_of_Rome)

115 [https://en.wikipedia.org/wiki/Hildegard\\_of\\_Bingen](https://en.wikipedia.org/wiki/Hildegard_of_Bingen)

116 [https://en.wikipedia.org/wiki/Hugh\\_of\\_Saint\\_Victor](https://en.wikipedia.org/wiki/Hugh_of_Saint_Victor)

117 [https://en.wikipedia.org/wiki/Isidore\\_of\\_Seville](https://en.wikipedia.org/wiki/Isidore_of_Seville)

118 [https://en.wikipedia.org/wiki/James\\_of\\_Viterbo](https://en.wikipedia.org/wiki/James_of_Viterbo)

- 
- 119 [https://en.wikipedia.org/wiki/Jean\\_Buridan](https://en.wikipedia.org/wiki/Jean_Buridan)
  - 120 [https://en.wikipedia.org/wiki/Meister\\_Eckhart](https://en.wikipedia.org/wiki/Meister_Eckhart)
  - 121 [https://en.wikipedia.org/wiki/Nicholas\\_of\\_Cusa](https://en.wikipedia.org/wiki/Nicholas_of_Cusa)
  - 122 [https://en.wikipedia.org/wiki/Nicole\\_Oresme](https://en.wikipedia.org/wiki/Nicole_Oresme)
  - 123 [https://en.wikipedia.org/wiki/Paul\\_of\\_Venice](https://en.wikipedia.org/wiki/Paul_of_Venice)
  - 124 [https://en.wikipedia.org/wiki/Paschasius\\_Radbertus](https://en.wikipedia.org/wiki/Paschasius_Radbertus)
  - 125 [https://en.wikipedia.org/wiki/Peter\\_Lombard](https://en.wikipedia.org/wiki/Peter_Lombard)
  - 126 <https://en.wikipedia.org/wiki/Roscellinus>
  - 127 [https://en.wikipedia.org/wiki/Symeon\\_the\\_New\\_Theologian](https://en.wikipedia.org/wiki/Symeon_the_New_Theologian)
  - 128 [https://en.wikipedia.org/wiki/Thierry\\_of\\_Chartres](https://en.wikipedia.org/wiki/Thierry_of_Chartres)
  - 129 [https://en.wikipedia.org/wiki/Thomas\\_Aquinas](https://en.wikipedia.org/wiki/Thomas_Aquinas)

## Modern

- Arnauld<sup>130</sup>
- Azpilcueta<sup>131</sup>
- Bellarmine<sup>132</sup>
- Bossuet<sup>133</sup>
- Brentano<sup>134</sup>
- Vico<sup>135</sup>
- Botero<sup>136</sup>
- Cajetan<sup>137</sup>
- Cortés<sup>138</sup>
- Sales<sup>139</sup>
- Soto<sup>140</sup>
- Descartes<sup>141</sup>
- Erasmus<sup>142</sup>
- Fénelon<sup>143</sup>
- Gracián<sup>144</sup>
- Kołataj<sup>145</sup>
- Krasicki<sup>146</sup>
- La Mennais<sup>147</sup>
- Liguori<sup>148</sup>
- Malebranche<sup>149</sup>
- Maistre<sup>150</sup>
- Meinong<sup>151</sup>
- Mercado<sup>152</sup>
- Molina<sup>153</sup>
- More<sup>154</sup>
- Newman<sup>155</sup>
- Pascal<sup>156</sup>
- Chateaubriand<sup>157</sup>
- Rosmini<sup>158</sup>
- Ávila<sup>159</sup>
- Suárez<sup>160</sup>
- Vitoria<sup>161</sup>

---

130 [https://en.wikipedia.org/wiki/Antoine\\_Arnauld](https://en.wikipedia.org/wiki/Antoine_Arnauld)

131 [https://en.wikipedia.org/wiki/Mart%C3%ADn\\_de\\_Azpilcueta](https://en.wikipedia.org/wiki/Mart%C3%ADn_de_Azpilcueta)

132 [https://en.wikipedia.org/wiki/Robert\\_Bellarmine](https://en.wikipedia.org/wiki/Robert_Bellarmine)

133 [https://en.wikipedia.org/wiki/Jacques-B%C3%A9nigne\\_Bossuet](https://en.wikipedia.org/wiki/Jacques-B%C3%A9nigne_Bossuet)

134 [https://en.wikipedia.org/wiki/Franz\\_Brentano](https://en.wikipedia.org/wiki/Franz_Brentano)

135 [https://en.wikipedia.org/wiki/Giambattista\\_Vico](https://en.wikipedia.org/wiki/Giambattista_Vico)

136 [https://en.wikipedia.org/wiki/Giovanni\\_Botero](https://en.wikipedia.org/wiki/Giovanni_Botero)

137 [https://en.wikipedia.org/wiki/Thomas\\_Cajetan](https://en.wikipedia.org/wiki/Thomas_Cajetan)

138 [https://en.wikipedia.org/wiki/Juan\\_Donoso\\_Cort%C3%A9s](https://en.wikipedia.org/wiki/Juan_Donoso_Cort%C3%A9s)

139 [https://en.wikipedia.org/wiki/Francis\\_de\\_Sales](https://en.wikipedia.org/wiki/Francis_de_Sales)

140 [https://en.wikipedia.org/wiki/Domingo\\_de\\_Soto](https://en.wikipedia.org/wiki/Domingo_de_Soto)

141 [https://en.wikipedia.org/wiki/Ren%C3%A9\\_Descartes](https://en.wikipedia.org/wiki/Ren%C3%A9_Descartes)

142 <https://en.wikipedia.org/wiki/Erasmus>

143 [https://en.wikipedia.org/wiki/Fran%C3%A7ois\\_F%C3%A9nelon](https://en.wikipedia.org/wiki/Fran%C3%A7ois_F%C3%A9nelon)

144 [https://en.wikipedia.org/wiki/Baltasar\\_Graci%C3%A1n](https://en.wikipedia.org/wiki/Baltasar_Graci%C3%A1n)

145 [https://en.wikipedia.org/wiki/Hugo\\_Ko%C5%82%C5%82%C4%85taj](https://en.wikipedia.org/wiki/Hugo_Ko%C5%82%C5%82%C4%85taj)

- 146 [https://en.wikipedia.org/wiki/Ignacy\\_Krasicki](https://en.wikipedia.org/wiki/Ignacy_Krasicki)
- 147 [https://en.wikipedia.org/wiki/F%C3%A9licit%C3%A9\\_de\\_La\\_Mennais](https://en.wikipedia.org/wiki/F%C3%A9licit%C3%A9_de_La_Mennais)
- 148 [https://en.wikipedia.org/wiki/Alphonsus\\_Liguori](https://en.wikipedia.org/wiki/Alphonsus_Liguori)
- 149 [https://en.wikipedia.org/wiki/Nicolas\\_Malebranche](https://en.wikipedia.org/wiki/Nicolas_Malebranche)
- 150 [https://en.wikipedia.org/wiki/Joseph\\_de\\_Maistre](https://en.wikipedia.org/wiki/Joseph_de_Maistre)
- 151 [https://en.wikipedia.org/wiki/Alexius\\_Meinong](https://en.wikipedia.org/wiki/Alexius_Meinong)
- 152 [https://en.wikipedia.org/wiki/Tom%C3%A1s\\_de\\_Mercado](https://en.wikipedia.org/wiki/Tom%C3%A1s_de_Mercado)
- 153 [https://en.wikipedia.org/wiki/Luis\\_de\\_Molina](https://en.wikipedia.org/wiki/Luis_de_Molina)
- 154 [https://en.wikipedia.org/wiki/Thomas\\_More](https://en.wikipedia.org/wiki/Thomas_More)
- 155 [https://en.wikipedia.org/wiki/John\\_Henry\\_Newman](https://en.wikipedia.org/wiki/John_Henry_Newman)
- 156 [https://en.wikipedia.org/wiki/Blaise\\_Pascal](https://en.wikipedia.org/wiki/Blaise_Pascal)
- 157 [https://en.wikipedia.org/wiki/Fran%C3%A7ois-Ren%C3%A9\\_de\\_Chateaubriand](https://en.wikipedia.org/wiki/Fran%C3%A7ois-Ren%C3%A9_de_Chateaubriand)
- 158 [https://en.wikipedia.org/wiki/Antonio\\_Rosmini](https://en.wikipedia.org/wiki/Antonio_Rosmini)
- 159 [https://en.wikipedia.org/wiki/Teresa\\_of\\_%C3%81vila](https://en.wikipedia.org/wiki/Teresa_of_%C3%81vila)
- 160 [https://en.wikipedia.org/wiki/Francisco\\_Su%C3%A1rez](https://en.wikipedia.org/wiki/Francisco_Su%C3%A1rez)
- 161 [https://en.wikipedia.org/wiki/Francisco\\_de\\_Vitoria](https://en.wikipedia.org/wiki/Francisco_de_Vitoria)

## Contemporary

- Mortimer J. Adler<sup>162</sup>
- Peter Geach<sup>163</sup>
- G. E. M. Anscombe<sup>164</sup>
- Pope Benedict XVI<sup>165</sup>
- Maurice Blondel<sup>166</sup>
- G. K. Chesterton<sup>167</sup>
- Yves Congar<sup>168</sup>
- Frederick Copleston<sup>169</sup>
- Henri de Lubac<sup>170</sup>
- John Finnis<sup>171</sup>
- Reginald Garrigou-Lagrange<sup>172</sup>
- Étienne Gilson<sup>173</sup>
- René Girard<sup>174</sup>
- Gustavo Gutiérrez<sup>175</sup>
- Nicolás Gómez Dávila<sup>176</sup>
- Romano Guardini<sup>177</sup>
- John Haldane<sup>178</sup>
- Dietrich von Hildebrand<sup>179</sup>
- Pope John Paul II<sup>180</sup>
- Bernard Lonergan<sup>181</sup>
- Alasdair MacIntyre<sup>182</sup>
- Gabriel Marcel<sup>183</sup>
- Jean-Luc Marion<sup>184</sup>
- Jacques Maritain<sup>185</sup>
- Marshall McLuhan<sup>186</sup>
- Emmanuel Mounier<sup>187</sup>
- Josef Pieper<sup>188</sup>
- Karl Rahner<sup>189</sup>
- Edith Stein<sup>190</sup>
- Charles Taylor<sup>191</sup>
- Hans Urs von Balthasar<sup>192</sup>

162 [https://en.wikipedia.org/wiki/Mortimer\\_J.\\_Adler](https://en.wikipedia.org/wiki/Mortimer_J._Adler)

163 [https://en.wikipedia.org/wiki/Peter\\_Geach](https://en.wikipedia.org/wiki/Peter_Geach)

164 [https://en.wikipedia.org/wiki/G.\\_E.\\_M.\\_Anscombe](https://en.wikipedia.org/wiki/G._E._M._Anscombe)

165 [https://en.wikipedia.org/wiki/Pope\\_Benedict\\_XVI](https://en.wikipedia.org/wiki/Pope_Benedict_XVI)

166 [https://en.wikipedia.org/wiki/Maurice\\_Blondel](https://en.wikipedia.org/wiki/Maurice_Blondel)

167 [https://en.wikipedia.org/wiki/G.\\_K.\\_Chesterton](https://en.wikipedia.org/wiki/G._K._Chesterton)

168 [https://en.wikipedia.org/wiki/Yves\\_Congar](https://en.wikipedia.org/wiki/Yves_Congar)

169 [https://en.wikipedia.org/wiki/Frederick\\_Copleston](https://en.wikipedia.org/wiki/Frederick_Copleston)

170 [https://en.wikipedia.org/wiki/Henri\\_de\\_Lubac](https://en.wikipedia.org/wiki/Henri_de_Lubac)

171 [https://en.wikipedia.org/wiki/John\\_Finnis](https://en.wikipedia.org/wiki/John_Finnis)

172 [https://en.wikipedia.org/wiki/Reginald\\_Garrigou-Lagrange](https://en.wikipedia.org/wiki/Reginald_Garrigou-Lagrange)

173 [https://en.wikipedia.org/wiki/%C3%89tienne\\_Gilson](https://en.wikipedia.org/wiki/%C3%89tienne_Gilson)

174 [https://en.wikipedia.org/wiki/Ren%C3%A9\\_Girard](https://en.wikipedia.org/wiki/Ren%C3%A9_Girard)

175 [https://en.wikipedia.org/wiki/Gustavo\\_Guti%C3%A9rrez](https://en.wikipedia.org/wiki/Gustavo_Guti%C3%A9rrez)

176 [https://en.wikipedia.org/wiki/Nicol%C3%A1s\\_G%C3%B3mez\\_D%C3%A1vila](https://en.wikipedia.org/wiki/Nicol%C3%A1s_G%C3%B3mez_D%C3%A1vila)

177 [https://en.wikipedia.org/wiki/Romano\\_Guardini](https://en.wikipedia.org/wiki/Romano_Guardini)

178 [https://en.wikipedia.org/wiki/John\\_Haldane\\_\(philosopher\)](https://en.wikipedia.org/wiki/John_Haldane_(philosopher))



- v<sup>195</sup>
- t<sup>196</sup>
- e<sup>197</sup>

In scholasticism<sup>198</sup>, William of Ockham advocated reform in both method and content, the aim of which was simplification. William incorporated much of the work of some previous theologians, especially Duns Scotus<sup>199</sup>. From Duns Scotus, William of Ockham derived his view of divine omnipotence, his view of grace and justification, much of his epistemology [*citation needed*<sup>200</sup>] and ethical convictions.<sup>[24]</sup> However, he also reacted to and against Scotus in the areas of predestination, penance, his understanding of universals, his formal distinction *ex parte rei* (that is, "as applied to created things"), and his view of parsimony which became known as Occam's Razor<sup>201</sup>.

### 1.2.1 Faith and reason

William of Ockham espoused fideism<sup>202</sup>, stating that "only faith gives us access to theological truths. The ways of God are not open to reason, for God has freely chosen to create a world and establish a way of salvation within it apart from any necessary laws that human logic or rationality can uncover."<sup>[25]</sup> He believed that science was a matter of discovery and saw God as the only ontological necessity.<sup>[15]</sup> His importance is as a theologian with a strongly developed interest in logical method, and whose approach was critical rather than system building.<sup>[26]</sup>

---

179 [https://en.wikipedia.org/wiki/Dietrich\\_von\\_Hildebrand](https://en.wikipedia.org/wiki/Dietrich_von_Hildebrand)

180 [https://en.wikipedia.org/wiki/Pope\\_John\\_Paul\\_II](https://en.wikipedia.org/wiki/Pope_John_Paul_II)

181 [https://en.wikipedia.org/wiki/Bernard\\_Lonergan](https://en.wikipedia.org/wiki/Bernard_Lonergan)

182 [https://en.wikipedia.org/wiki/Alasdair\\_MacIntyre](https://en.wikipedia.org/wiki/Alasdair_MacIntyre)

183 [https://en.wikipedia.org/wiki/Gabriel\\_Marcel](https://en.wikipedia.org/wiki/Gabriel_Marcel)

184 [https://en.wikipedia.org/wiki/Jean-Luc\\_Marion](https://en.wikipedia.org/wiki/Jean-Luc_Marion)

185 [https://en.wikipedia.org/wiki/Jacques\\_Maritain](https://en.wikipedia.org/wiki/Jacques_Maritain)

186 [https://en.wikipedia.org/wiki/Marshall\\_McLuhan](https://en.wikipedia.org/wiki/Marshall_McLuhan)

187 [https://en.wikipedia.org/wiki/Emmanuel\\_Mounier](https://en.wikipedia.org/wiki/Emmanuel_Mounier)

188 [https://en.wikipedia.org/wiki/Josef\\_Pieper](https://en.wikipedia.org/wiki/Josef_Pieper)

189 [https://en.wikipedia.org/wiki/Karl\\_Rahner](https://en.wikipedia.org/wiki/Karl_Rahner)

190 [https://en.wikipedia.org/wiki/Edith\\_Stein](https://en.wikipedia.org/wiki/Edith_Stein)

191 [https://en.wikipedia.org/wiki/Charles\\_Taylor\\_\(philosopher\)](https://en.wikipedia.org/wiki/Charles_Taylor_(philosopher))

192 [https://en.wikipedia.org/wiki/Hans\\_Urs\\_von\\_Balthasar](https://en.wikipedia.org/wiki/Hans_Urs_von_Balthasar)

193 <https://en.wikipedia.org/wiki/Portal:Catholicism>

194 <https://en.wikipedia.org/wiki/Portal:Philosophy>

195 [https://en.wikipedia.org/wiki/Template:Catholic\\_philosophy](https://en.wikipedia.org/wiki/Template:Catholic_philosophy)

196 [https://en.wikipedia.org/wiki/Template\\_talk:Catholic\\_philosophy](https://en.wikipedia.org/wiki/Template_talk:Catholic_philosophy)

197 [https://en.wikipedia.org/w/index.php?title=Template:Catholic\\_philosophy&action=edit](https://en.wikipedia.org/w/index.php?title=Template:Catholic_philosophy&action=edit)

198 <https://en.wikipedia.org/wiki/Scholasticism>

199 [https://en.wikipedia.org/wiki/Duns\\_Scotus](https://en.wikipedia.org/wiki/Duns_Scotus)

201 [https://en.wikipedia.org/wiki/Occam%27s\\_Razor](https://en.wikipedia.org/wiki/Occam%27s_Razor)

202 <https://en.wikipedia.org/wiki/Fideism>

### 1.2.2 Nominalism

William of Ockham was a pioneer of nominalism<sup>203</sup>, and some consider him the father of modern epistemology<sup>204</sup>, because of his strongly argued position that only individuals exist, rather than supra-individual universals<sup>205</sup>, essences, or forms, and that universals are the products of abstraction from individuals by the human mind and have no extra-metaphysical existence.<sup>[27]</sup> He denied the real existence of metaphysical universals and advocated the reduction of ontology<sup>206</sup>. William of Ockham is sometimes considered an advocate of conceptualism<sup>207</sup> rather than nominalism, for whereas nominalists held that universals were merely names, i.e. words rather than extant realities, conceptualists held that they were mental concepts<sup>208</sup>, i.e. the names were names of concepts, which do exist, although only in the mind. Therefore, the universal concept has for its object, not a reality existing in the world outside us, but an internal representation which is a product of the understanding itself and which "supposes" in the mind the things to which the mind attributes it; that is, it holds, for the time being, the place of the things which it represents. It is the term of the reflective act of the mind. Hence the universal is not a mere word, as Roscelin<sup>209</sup> taught, nor a *sermo*, as Peter Abelard<sup>210</sup> held, namely the word as used in the sentence, but the mental substitute for real things, and the term of the reflective process. For this reason William has sometimes also been called a "terminist", to distinguish him from a nominalist or a conceptualist.<sup>[28]</sup>

William of Ockham was a theological voluntarist<sup>211</sup> who believed that if God had wanted to, he could have become incarnate as a donkey or an ox, or even as both a donkey and a man at the same time. He was criticized for this belief by his fellow theologians and philosophers.<sup>[29]</sup>

### 1.2.3 Efficient reasoning

One important contribution that he made to modern science and modern intellectual culture was efficient reasoning with the principle of parsimony in explanation and theory building that came to be known as Occam's Razor<sup>212</sup>. This maxim, as interpreted by Bertrand Russell<sup>213</sup>,<sup>[30]</sup> states that if one can explain a phenomenon without assuming this or that hypothetical entity, there is no ground for assuming it, i.e. that one should always opt for an explanation in terms of the fewest possible causes, factors, or variables. He turned this into a concern for ontological parsimony; the principle says that one should not multiply entities beyond necessity – *Entia non sunt multiplicanda sine necessitate* – although this well-known formulation of the principle is not to be found in any of William's extant writings.<sup>[31]</sup> He formulates it as: "For nothing ought to be posited without a reason given, unless it is self-

---

203 <https://en.wikipedia.org/wiki/Nominalism>

204 <https://en.wikipedia.org/wiki/Epistemology>

205 [https://en.wikipedia.org/wiki/Universal\\_\(metaphysics\)](https://en.wikipedia.org/wiki/Universal_(metaphysics))

206 <https://en.wikipedia.org/wiki/Ontology>

207 <https://en.wikipedia.org/wiki/Conceptualism>

208 <https://en.wikipedia.org/wiki/Concept>

209 <https://en.wikipedia.org/wiki/Roscellinus>

210 [https://en.wikipedia.org/wiki/Peter\\_Abelard](https://en.wikipedia.org/wiki/Peter_Abelard)

211 [https://en.wikipedia.org/wiki/Voluntarism\\_\(theology\)](https://en.wikipedia.org/wiki/Voluntarism_(theology))

212 [https://en.wikipedia.org/wiki/Occam%27s\\_Razor](https://en.wikipedia.org/wiki/Occam%27s_Razor)

213 [https://en.wikipedia.org/wiki/Bertrand\\_Russell](https://en.wikipedia.org/wiki/Bertrand_Russell)

evident (literally, known through itself) or known by experience or proved by the authority of Sacred Scripture.”<sup>[32]</sup> For William of Ockham, the only truly necessary entity is God; everything else is contingent. He thus does not accept the principle of sufficient reason<sup>214</sup>, rejects the distinction between essence and existence, and opposes the Thomistic doctrine<sup>215</sup> of active and passive intellect. His scepticism to which his ontological parsimony request leads appears in his doctrine that human reason can prove neither the immortality of the soul; nor the existence, unity, and infinity of God. These truths, he teaches, are known to us by revelation alone.<sup>[28]</sup>

#### 1.2.4 Natural philosophy

William wrote a great deal on natural philosophy<sup>216</sup>, including a long commentary on Aristotle's *Physics*<sup>217</sup>.<sup>[33]</sup> According to the principle of ontological parsimony, he holds that we do not need to allow entities in all ten of Aristotle's categories; we thus do not need the category of quantity, as the mathematical entities are not ”real”. Mathematics must be applied to other categories, such as the categories of substance or qualities, thus anticipating modern scientific renaissance while violating Aristotelian prohibition of *metabasis*.

#### 1.2.5 Theory of knowledge

In the theory of knowledge, William rejected the scholastic theory of species, as unnecessary and not supported by experience, in favour of a theory of abstraction. This was an important development in late medieval epistemology<sup>218</sup>. He also distinguished between intuitive and abstract cognition; intuitive cognition depends on the existence or non-existence of the object, whereas abstractive cognition ”abstracts” the object from the existence predicate. Interpreters are, as yet, undecided about the roles of these two types of cognitive activities.<sup>[34]</sup>

#### 1.2.6 Political theory

William of Ockham is also increasingly being recognized as an important contributor to the development of Western constitutional ideas, especially those of government with limited responsibility.<sup>[35]</sup> He was one of the first medieval authors to advocate a form of church/state separation,<sup>[35]</sup> and was important for the early development of the notion of property rights. His political ideas are regarded as ”natural” or ”secular”, holding for a secular absolutism.<sup>[35]</sup> The views on monarchical accountability espoused in his *Dialogus* (written between 1332 and 1347)<sup>[36]</sup> greatly influenced the Conciliar movement<sup>219</sup> and assisted in the emergence of liberal democratic ideologies.<sup>[citation needed<sup>220</sup>]</sup>

William argued for complete separation of spiritual rule and earthly rule.<sup>[37]</sup> He thought that the pope and churchmen have no right or grounds at all for secular rule like having

---

214 [https://en.wikipedia.org/wiki/Principle\\_of\\_sufficient\\_reason](https://en.wikipedia.org/wiki/Principle_of_sufficient_reason)

215 <https://en.wikipedia.org/wiki/Thomism>

216 [https://en.wikipedia.org/wiki/Natural\\_philosophy](https://en.wikipedia.org/wiki/Natural_philosophy)

217 [https://en.wikipedia.org/wiki/Physics\\_\(Aristotle\)](https://en.wikipedia.org/wiki/Physics_(Aristotle))

218 <https://en.wikipedia.org/wiki/Epistemology>

219 <https://en.wikipedia.org/wiki/Conciliarism>

property, citing 2 Tim. 2:4. That belongs solely to earthly rulers, who may also accuse the pope of crimes, if need be.<sup>[38]</sup>

After the Fall<sup>221</sup> God had given men, including non-Christians, two powers: private ownership and the right to set their rulers, who should serve the interest of the people, not some special interests. Thus he preceded Thomas Hobbes<sup>222</sup> in formulating social contract<sup>223</sup> theory along with earlier scholars.<sup>[38]</sup>

William of Ockham said that the Franciscans avoided both private and common ownership by using commodities, including food and clothes, without any rights, with mere *usus facti*, the ownership still belonging to the donor of the item or to the pope. Their opponents such as Pope John XXII<sup>224</sup> wrote that use without any ownership cannot be justified: "*It is impossible that an external deed could be just if the person has no right to do it.*"<sup>[38]</sup>

Thus the disputes on the heresy of Franciscans led William of Ockham and others to formulate some fundamentals of economic theory and the theory of ownership.<sup>[38]</sup>

### 1.2.7 Logic

In logic<sup>225</sup>, William of Ockham wrote down in words the formulae that would later be called De Morgan's Laws<sup>226</sup>,<sup>[39]</sup> and he pondered ternary logic<sup>227</sup>, that is, a logical system<sup>228</sup> with three truth values<sup>229</sup>; a concept that would be taken up again in the mathematical logic<sup>230</sup> of the 19th and 20th centuries. His contributions to semantics<sup>231</sup>, especially to the maturing theory of supposition<sup>232</sup>, are still studied by logicians.<sup>[40][41]</sup> William of Ockham was probably the first logician to treat empty terms in Aristotelian syllogistic effectively; he devised an empty term semantics that exactly fit the syllogistic. Specifically, an argument is valid according to William's semantics if and only if it is valid according to *Prior Analytics*.<sup>[42]</sup>

## 1.3 Literary Ockhamism/nominalism

William of Ockham and his works have been discussed as a possible influence on several late medieval literary figures and works, especially Geoffrey Chaucer<sup>233</sup>, but also Jean Mo-

---

221 [https://en.wikipedia.org/wiki/Fall\\_of\\_Man](https://en.wikipedia.org/wiki/Fall_of_Man)

222 [https://en.wikipedia.org/wiki/Thomas\\_Hobbes](https://en.wikipedia.org/wiki/Thomas_Hobbes)

223 [https://en.wikipedia.org/wiki/Social\\_contract](https://en.wikipedia.org/wiki/Social_contract)

224 [https://en.wikipedia.org/wiki/John\\_XXII](https://en.wikipedia.org/wiki/John_XXII)

225 <https://en.wikipedia.org/wiki/Logic>

226 [https://en.wikipedia.org/wiki/De\\_Morgan%27s\\_Laws](https://en.wikipedia.org/wiki/De_Morgan%27s_Laws)

227 [https://en.wikipedia.org/wiki/Ternary\\_logic](https://en.wikipedia.org/wiki/Ternary_logic)

228 [https://en.wikipedia.org/wiki/Logical\\_system](https://en.wikipedia.org/wiki/Logical_system)

229 [https://en.wikipedia.org/wiki/Truth\\_values](https://en.wikipedia.org/wiki/Truth_values)

230 [https://en.wikipedia.org/wiki/Mathematical\\_logic](https://en.wikipedia.org/wiki/Mathematical_logic)

231 <https://en.wikipedia.org/wiki/Semantics>

232 <https://en.wikipedia.org/wiki/Supposition>

233 [https://en.wikipedia.org/wiki/Geoffrey\\_Chaucer](https://en.wikipedia.org/wiki/Geoffrey_Chaucer)

linet<sup>234</sup>, the *Gawain*<sup>235</sup> poet, François Rabelais<sup>236</sup>, John Skelton<sup>237</sup>, Julian of Norwich<sup>238</sup>, the York and Townely Plays, and Renaissance romances. Only in very few of these cases is it possible to demonstrate direct links to William of Ockham or his texts. Correspondences between Ockhamist and Nominalist philosophy/theology and literary texts from medieval to postmodern times have been discussed within the scholarly paradigm of literary nominalism<sup>239</sup>.<sup>[43]</sup> Erasmus, in his *Praise of Folly*, criticized him together with Duns Scotus as fuelling unnecessary controversies inside the Church.

---

234 [https://en.wikipedia.org/wiki/Jean\\_Molinet](https://en.wikipedia.org/wiki/Jean_Molinet)

235 [https://en.wikipedia.org/wiki/Sir\\_Gawain\\_and\\_the\\_Green\\_Knight](https://en.wikipedia.org/wiki/Sir_Gawain_and_the_Green_Knight)

236 [https://en.wikipedia.org/wiki/Fran%C3%A7ois\\_Rabelais](https://en.wikipedia.org/wiki/Fran%C3%A7ois_Rabelais)

237 [https://en.wikipedia.org/wiki/John\\_Skelton\\_\(poet\)](https://en.wikipedia.org/wiki/John_Skelton_(poet))

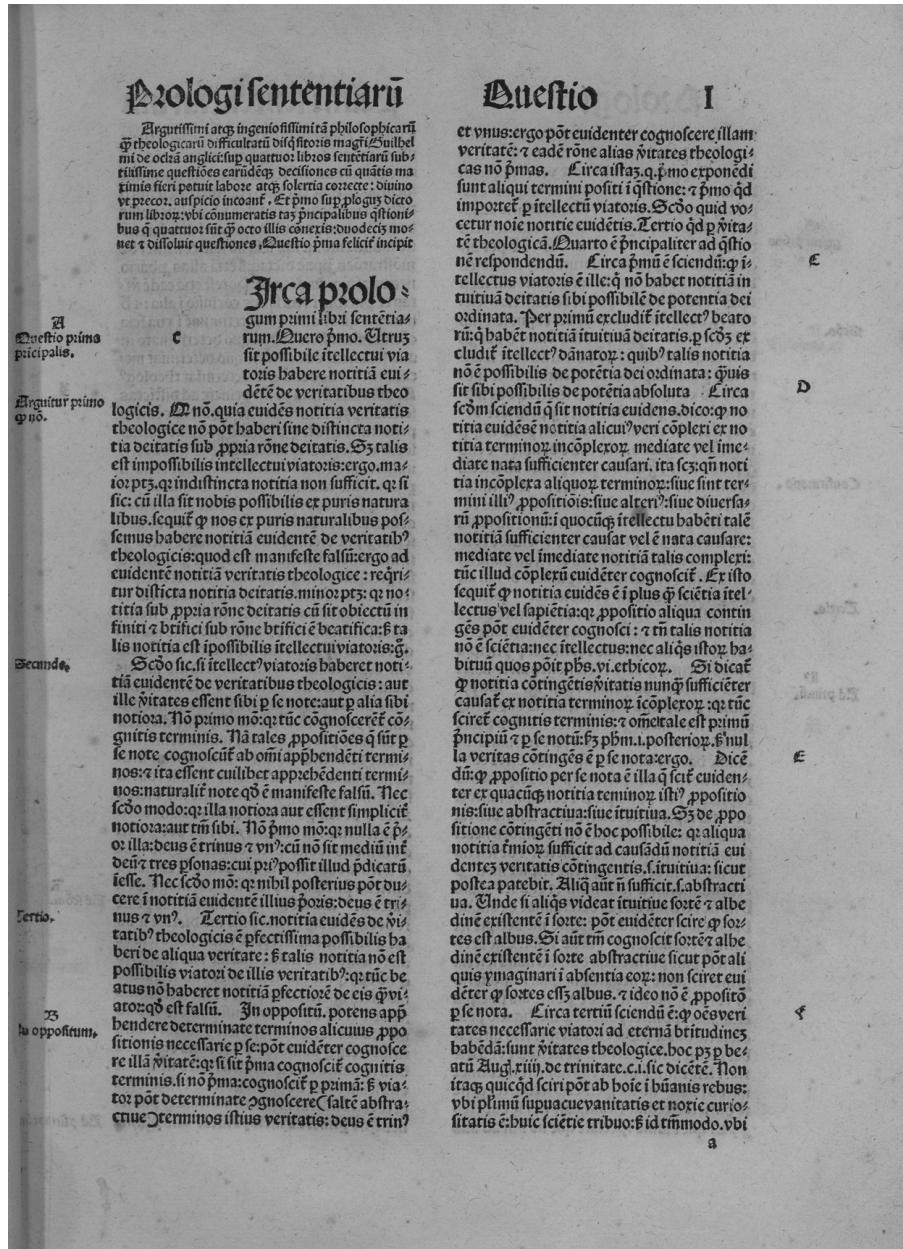
238 [https://en.wikipedia.org/wiki/Julian\\_of\\_Norwich](https://en.wikipedia.org/wiki/Julian_of_Norwich)

239 [https://en.wikipedia.org/wiki/Literary\\_nominalism](https://en.wikipedia.org/wiki/Literary_nominalism)

## 1.4 Works



**Figure 4** Sketch labelled "frater Occham iste", from a manuscript of Ockham's *Summa Logicae*, 1341

**Figure 5** *Quaestiones in quatuor libros sententiarum*

The standard edition of the philosophical and theological works is: *William of Ockham: Opera philosophica et theologica*, Gedeon Gál, et al., eds. 17 vols. St. Bonaventure, N. Y.: The Franciscan Institute<sup>240</sup>, 1967–88.

The seventh volume of the *Opera Philosophica* contains the doubtful and spurious works.

240 [https://en.wikipedia.org/wiki/Saint\\_Bonaventure\\_University](https://en.wikipedia.org/wiki/Saint_Bonaventure_University)

The political works, all but the *Dialogus*, have been edited in H. S. Offler<sup>241</sup>, et al., eds. *Guilelmi de Ockham Opera Politica*, 4 vols., 1940–97, Manchester: Manchester University Press [vols. 1–3]; Oxford: Oxford University Press [vol. 4].

Abbreviations: OT = Opera Theologica vols. 1–10; OP = Opera Philosophica vols. 1–7.

#### 1.4.1 Philosophical writings

- *Summa logicae* (Sum of Logic<sup>242</sup>) (c. 1323, OP 1).
- *Expositionis in Libros artis logicae prooemium*, 1321–24, OP 2).
- *Expositio in librum Porphyrii de Praedicabilibus*, 1321–24, OP 2).
- *Expositio in librum Praedicamentorum Aristotelis*, 1321–24, OP 2).
- *Expositio in librum in librum Perihermenias Aristotelis*, 1321–24, OP 2).
- *Tractatus de praedestinatione et de prescientia dei respectu futurorum contingentium* (Treatise on Predestination and God's Foreknowledge with respect to Future Contingents, 1322–24, OP 2).
- *Expositio super libros Elenchorum* (Exposition of Aristotle's Sophistic refutations, 1322–24, OP 3).
- *Expositio in libros Physicorum Aristotelis. Prologus et Libri I–III* (Exposition of Aristotle's Physics) (1322–24, OP 4).
- *Expositio in libros Physicorum Aristotelis. Prologus et Libri IV–VIII* (Exposition of Aristotle's Physics) (1322–24, OP 5).
- *Brevis summa libri Physicorum* (Brief Summa of the Physics, 1322–23, OP 6).
- *Summula philosophiae naturalis* (Little Summa of Natural Philosophy, 1319–21, OP 6).
- *Quaestiones in libros Physicorum Aristotelis* (Questions on Aristotle's Books of the Physics, before 1324, OP 6).

#### 1.4.2 Theological writings

- In libros Sententiarum (Commentary on the Sentences of Peter Lombard).
  - Book I (Ordinatio) completed shortly after July 1318 (OT 1–4).
  - Books II–IV (Reportatio) 1317–18 (transcription of the lectures; OT 5–7).
- Quaestiones variae (OT 8).
- Quodlibeta septem (before 1327), (OT 9).
- Tractatus de quantitate (1323–24. OT 10).
- Tractatus de corpore Christi (1323–24, OT 10).

#### 1.4.3 Political writings

- Opus nonaginta dierum (1332–34).
- Epistola ad fratres minores (1334).
- *Dialogus* (before 1335).
- Tractatus contra Johannem [XXII] (1335).
- Tractatus contra Benedictum [XII] (1337–38).
- Octo quaestiones de potestate papae (1340–41).

<sup>241</sup> [https://en.wikipedia.org/wiki/H.\\_S.\\_Offler](https://en.wikipedia.org/wiki/H._S._Offler)

<sup>242</sup> [https://en.wikipedia.org/wiki/Sum\\_of\\_Logic](https://en.wikipedia.org/wiki/Sum_of_Logic)

- Consultatio de causa matrimoniali (1341–42).
- Brevioloquium (1341–42).
- De imperatorum et pontificum potestate [also known as "Defensorium"] (1346–47).

#### 1.4.4 Doubtful writings

- Tractatus minor logicae (Lesser Treatise on logic) (1340–47?, OP 7).
- Elementarium logicae (Primer of logic) (1340–47?, OP 7).

#### 1.4.5 Spurious writings

- Tractatus de praedicamentis (OP 7).
- Quaestio de relatione (OP 7).
- Centiloquium (OP 7).
- Tractatus de principiis theologiae (OP 7).

#### 1.4.6 Translations

##### Philosophical works

- *Philosophical Writings*, tr. P Boehner, rev. S Brown, (Indianapolis, IN, 1990)
- *Ockham's Theory of Terms: Part I of the Summa logicae*, translated by Michael J. Loux, (Notre Dame; London: University of Notre Dame Press, 1974) [translation of *Summa logicae*, part 1]
- *Ockham's Theory of Propositions: Part II of the Summa logicae*, translated by Alfred J. Freddoso and Henry Schuurman, (Notre Dame: University of Notre Dame Press, 1980) [translation of *Summa logicae*, part 2]
- *Demonstration and Scientific Knowledge in William of Ockham: a Translation of Summa logicae III-II, De syllogismo demonstrativo, and Selections from the Prologue to the Ordinatio*, translated by John Lee Longeway, (Notre Dame, IN: University of Notre Dame, 2007)
- *Ockham on Aristotle's Physics: A Translation of Ockham's Brevis Summa Libri Physicorum*, translated by Julian Davies, (St. Bonaventure, NY: The Franciscan Institute, 1989)
- Kluge, Eike-Henner W., "William of Ockham's Commentary on Porphyry: Introduction and English Translation", *Franciscan Studies* 33, pp. 171–254, JSTOR<sup>243</sup> 41974891<sup>244</sup>, and 34, pp. 306–82, JSTOR<sup>245</sup> 44080318<sup>246</sup>, (1973–74)
- *Predestination, God's Foreknowledge, and Future Contingents*, translated by Marilyn McCord Adams and Norman Kretzmann, (New York: Appleton-Century-Crofts, 1969) [translation of *Tractatus de praedestinatione et de praescientia Dei et de futuris contingentibus*]
- *Quodlibetal Questions*, translated by Alfred J Freddoso and Francis E Kelley, 2 vols, (New Haven; London: Yale University Press, 1991) (translation of *Quodlibeta septem*)

243 [https://en.wikipedia.org/wiki/JSTOR\\_\(identifier\)](https://en.wikipedia.org/wiki/JSTOR_(identifier))

244 <https://www.jstor.org/stable/41974891>

245 [https://en.wikipedia.org/wiki/JSTOR\\_\(identifier\)](https://en.wikipedia.org/wiki/JSTOR_(identifier))

246 <https://www.jstor.org/stable/44080318>

- Paul Spade, *Five Texts on the Mediaeval Problem of Universals: Porphyry, Boethius, Abelard, Duns Scotus, Ockham*, (Indianapolis, IN: Hackett, 1994) [Five questions on Universals from His *Ordinatio d. 2 qq. 4–8*]

### Theological works

- *The De sacramento altaris of William of Ockham*, translated by T Bruce Birch, (Burlington, Iowa: Lutheran Literary Board, 1930) [translation of *Treatise on Quantity* and *On the Body of Christ*]

### Political works

- *An princeps pro suo uccursu, scilicet guerrae, possit recipere bona ecclesiarum, etiam invito papa*, translated Cary J. Nederman, in *Political thought in early fourteenth-century England: treatises by Walter of Milemete, William of Pagula, and William of Ockham*, (Tempe, AZ: Arizona Center for Medieval and Renaissance Studies, 2002)
- *A translation of William of Ockham's Work of Ninety Days*, translated by John Kilcullen and John Scott, (Lewiston, NY: E. Mellen Press, 2001) [translation of *Opus nonaginta dierum*]
- *Tractatus de principiis theologiae*, translated in *A compendium of Ockham's teachings: a translation of the Tractatus de principiis theologiae*, translated by Julian Davies, (St. Bonaventure, NY: Franciscan Institute, St. Bonaventure University, 1998)
- *On the Power of Emperors and Popes*, translated by Annabel S. Brett, (Bristol, 1998)
- Rega Wood, *Ockham on the Virtues*, (West Lafayette, IN: Purdue University Press, 1997) [includes translation of *On the Connection of the Virtues*]
- *A Letter to the Friars Minor, and Other Writings*, translated by John Kilcullen, (Cambridge: Cambridge University Press, 1995) [includes translation of *Epistola ad Fratres Minores*]
- *A Short Discourse on the Tyrannical Government*, translated by John Kilcullen, (Cambridge: Cambridge University Press, 1992) [translation of *Breviloquium de principatu tyrannico*]
- William of Ockham, [Question One of] *Eight Questions on the Power of the Pope*, translated by Jonathan Robinson<sup>[44]</sup>

## 1.5 In fiction

William of Occam served as an inspiration for the creation of William of Baskerville<sup>247</sup>, the main character of Umberto Eco's novel *The Name of the Rose*<sup>248</sup>, and is the main character of *La abadía del crimen*<sup>249</sup> (*The Abbey of Crime*), a video game based upon said novel.

---

<sup>247</sup> [https://en.wikipedia.org/wiki/William\\_of\\_Baskerville](https://en.wikipedia.org/wiki/William_of_Baskerville)

<sup>248</sup> [https://en.wikipedia.org/wiki/The\\_Name\\_of\\_the\\_Rose](https://en.wikipedia.org/wiki/The_Name_of_the_Rose)

<sup>249</sup> [https://en.wikipedia.org/wiki/La\\_abad%C3%ADa\\_del\\_crimen](https://en.wikipedia.org/wiki/La_abad%C3%ADa_del_crimen)

## 1.6 See also

- Gabriel Biel<sup>250</sup>
- Philotheus Boehner<sup>251</sup>
- History of science in the Middle Ages<sup>252</sup>
- List of Roman Catholic scientist-clerics<sup>253</sup>
- List of scholastic philosophers<sup>254</sup>
- Ernest Addison Moody<sup>255</sup>
- occam (programming language)<sup>256</sup>
- Ockham algebra<sup>257</sup>
- Oxford Franciscan school<sup>258</sup>
- Rule according to higher law<sup>259</sup>
- Terminism<sup>260</sup>

## 1.7 Notes

1. However, Ockham has also been interpreted as a defender of Conceptualism<sup>261</sup>

## 1.8 References

1. Spade, Paul Vincent (ed.). *The Cambridge Companion to Ockham*. Cambridge University Press, 1999, p. 18.
2. Spade, Paul Vincent (ed.). *The Cambridge Companion to Ockham*. Cambridge University Press, 1999, p. 20.
3. He has long been claimed as a Merton<sup>262</sup> alumnus, but there is no contemporary evidence to support this claim and as a Franciscan, he would have been ineligible for fellowships at Merton (see G. H. Martin and J. R. L. Highfield, *A History of Merton College*, Oxford: Oxford University Press, 1997, p. 53). The claim that he was a pupil of Duns Scotus<sup>263</sup> at Oxford is also disputed (see Philip Hughes, *History of the Church: Volume 3: The Revolt Against The Church: Aquinas To Luther*, Sheed and Ward, 1979, p. 119 n. 2).

---

250 [https://en.wikipedia.org/wiki/Gabriel\\_Biel](https://en.wikipedia.org/wiki/Gabriel_Biel)

251 [https://en.wikipedia.org/wiki/Philotheus\\_Boehner](https://en.wikipedia.org/wiki/Philotheus_Boehner)

252 [https://en.wikipedia.org/wiki/History\\_of\\_science\\_in\\_the\\_Middle\\_Ages](https://en.wikipedia.org/wiki/History_of_science_in_the_Middle_Ages)

253 [https://en.wikipedia.org/wiki/List\\_of\\_Roman\\_Catholic\\_scientist-clerics](https://en.wikipedia.org/wiki/List_of_Roman_Catholic_scientist-clerics)

254 [https://en.wikipedia.org/wiki/List\\_of\\_scholastic\\_philosophers](https://en.wikipedia.org/wiki/List_of_scholastic_philosophers)

255 [https://en.wikipedia.org/wiki/Ernest\\_Addison\\_Moody](https://en.wikipedia.org/wiki/Ernest_Addison_Moody)

256 [https://en.wikipedia.org/wiki/Occam\\_\(programming\\_language\)](https://en.wikipedia.org/wiki/Occam_(programming_language))

257 [https://en.wikipedia.org/wiki/Ockham\\_algebra](https://en.wikipedia.org/wiki/Ockham_algebra)

258 [https://en.wikipedia.org/wiki/Oxford\\_Franciscan\\_school](https://en.wikipedia.org/wiki/Oxford_Franciscan_school)

259 [https://en.wikipedia.org/wiki/Rule\\_according\\_to\\_higher\\_law](https://en.wikipedia.org/wiki/Rule_according_to_higher_law)

260 <https://en.wikipedia.org/wiki/Terminism>

261 <https://en.wikipedia.org/wiki/Conceptualism>

262 [https://en.wikipedia.org/wiki/Merton\\_College,\\_Oxford](https://en.wikipedia.org/wiki/Merton_College,_Oxford)

263 [https://en.wikipedia.org/wiki/Duns\\_Scotus](https://en.wikipedia.org/wiki/Duns_Scotus)

4. Walker, L. (1912). Voluntarism<sup>264</sup>. In The Catholic Encyclopedia<sup>265</sup>. New York: Robert Appleton Company. Retrieved 27 September 2019 from New Advent<sup>266</sup>.
5. LONGEWAY, JOHN (2007). *Demonstration and scientific knowledge in William of Ockham: a translation of Summa logicae III-II : De syllogismo demonstrativo, and selections from the prologue to the ordinatio*. University of Notre Dame. p. 3. *Ockham may reasonably be regarded as the founder of empiricism in the European tradition.*
6. "ANSELM OF CANTERBURY (1033–1109)"<sup>267</sup>, Internet Encyclopedia of Philosophy<sup>268</sup>, 2006, RETRIEVED 10 NOVEMBER 2017
7. Jaegwon Kim, Ernest Sosa, Gary S. Rosenkrantz (eds.), *A Companion to Metaphysics*, Wiley-Blackwell, 2009, p. 164: "Buridan, Jean."
8. *Summa Logicae* (c. 1323)<sup>269</sup>, Prefatory Letter, as translated by Paul Vincent Spade (1995)<sup>270</sup>.
9. Jortin, John<sup>271</sup>. *Remarks on Ecclesiastical History, Volume 3*. p. 371.
10. Johann Jacob Hofmann<sup>272</sup>. *Lexicon universale, historiam sacram et profanam omnis aevi omniumque...* p. 431.
11. There are claims also that he was born in Ockham, Yorkshire but it is now accepted that his birth place was in Surrey. See WOOD, REGA (1997). *Ockham on the Virtues*. Purdue University<sup>273</sup> Press. pp. 3, 6–7n1. ISBN<sup>274</sup> 978-1-55753-097-4<sup>275</sup>.
12. "THE CALENDAR"<sup>276</sup>. *The Church of England*. Retrieved 27 March 2021.
13. *Medieval Philosophy of Religion: The History of Western Philosophy of Religion*, Volume 2, Graham Oppy & N. N. Trakakis (2014, p. 195)
14. During that time (1312–1317) Henry Harclay<sup>277</sup> was the Chancellor<sup>278</sup> of Oxford and it is believed that William was his pupil (see John Marenbon (ed.), *Medieval Philosophy*, Routledge, 2003, p. 329).
15. SPADE, PAUL VINCENT. "WILLIAM OF OCKHAM"<sup>279</sup>. *Stanford Encyclopedia of Philosophy*. Stanford University. Retrieved 22 October 2006.
16. BRUNDAGE, JAMES (2008). "CANON LAW IN THE LAW SCHOOLS". *The history of medieval canon law in the classical period*. Catholic University of America Press (Wilfried Hartmann & Kenneth Pennington, eds.). p. 115. ISBN<sup>280</sup> 978-0813214917<sup>281</sup>.

264 <http://www.newadvent.org/cathen/15505a.htm>

265 [https://en.wikipedia.org/wiki/Catholic\\_Encyclopedia](https://en.wikipedia.org/wiki/Catholic_Encyclopedia)

266 [https://en.wikipedia.org/wiki/New\\_Advent](https://en.wikipedia.org/wiki/New_Advent)

267 <http://www.iep.utm.edu/anselm/>

268 [https://en.wikipedia.org/wiki/Internet\\_Encyclopedia\\_of\\_Philosophy](https://en.wikipedia.org/wiki/Internet_Encyclopedia_of_Philosophy)

269 [https://en.wikipedia.org/wiki/Sum\\_of\\_Logic](https://en.wikipedia.org/wiki/Sum_of_Logic)

270 <http://www.pvspade.com/Logic/docs/ockham.pdf>

271 [https://en.wikipedia.org/wiki/John\\_Jortin](https://en.wikipedia.org/wiki/John_Jortin)

272 [https://en.wikipedia.org/wiki/Johann\\_Jacob\\_Hofmann](https://en.wikipedia.org/wiki/Johann_Jacob_Hofmann)

273 [https://en.wikipedia.org/wiki/Purdue\\_University](https://en.wikipedia.org/wiki/Purdue_University)

274 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

275 <https://en.wikipedia.org/wiki/Special:BookSources/978-1-55753-097-4>

276 <https://www.churchofengland.org/prayer-and-worship/worship-texts-and-resources/common-worship/churchs-year/calendar>

277 [https://en.wikipedia.org/wiki/Henry\\_Harclay](https://en.wikipedia.org/wiki/Henry_Harclay)

278 [https://en.wikipedia.org/wiki/Chancellor\\_\(education\)](https://en.wikipedia.org/wiki/Chancellor_(education))

279 <http://plato.stanford.edu/entries/ockham/>

280 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

281 <https://en.wikipedia.org/wiki/Special:BookSources/978-0813214917>

17. Olson, Roger E. (1999). *The Story of Christian Theology*, p. 350. ISBN<sup>282</sup> 0-8308-1505-8<sup>283</sup>
18. MOODY, ERNEST (2006). "WILLIAM OF OCKHAM"<sup>284</sup>. *Encyclopedia of Philosophy*. Detroit: Gale.
19. KNYSH, GEORGE (1986). "BIOGRAPHICAL RECTIFICATIONS CONCERNING WILLIAM'S AVIGNON PERIOD". *Franciscan Studies*. 46: 61–91. doi<sup>285</sup>:10.1353/frc.1986.0020<sup>286</sup>. JSTOR<sup>287</sup> 41975065<sup>288</sup>. S2CID<sup>289</sup> 162369468<sup>290</sup>.
20. HUNDERSMARCK, LAWRENCE (1992). *Great Thinkers of the Western World*<sup>291</sup>. HARPER COLLINS<sup>292</sup>. PP. 123–128<sup>293</sup>. ISBN<sup>294</sup> 0-06-270026-X<sup>295</sup>.
21. "WILLIAM OF OCCAM"<sup>296</sup>. [wotug.org](http://wotug.org).
22. MCGRADE, ARTHUR (1974). *The Political Thought of William of Ockham: Personal and Institutional Principles*. Cambridge University Press<sup>297</sup>. ISBN<sup>298</sup> 0-521-20284-1<sup>299</sup>.
23. GÁL, GEDEON (1982). "WILLIAM OF OCKHAM DIED 'IMPENITENT' IN APRIL 1347". *Franciscan Studies*. 42: 90–95. doi<sup>300</sup>:10.1353/frc.1982.0011<sup>301</sup>. JSTOR<sup>302</sup> 41974990<sup>303</sup>.
24. Lucan Freeport, *Basis of Morality According to William Ockham*, ISBN<sup>304</sup> 0819909181<sup>305</sup>, ISBN<sup>306</sup> 9780819909183<sup>307</sup>, Franciscan Herald Press, 1988.
25. Dale T. Irvin and Scott W. Sunquist. *History of World Christian Movement Volume I: Earliest Christianity to 1453*, p. 434. ISBN<sup>308</sup> 9781570753961<sup>309</sup>
26. *The Oxford Companion to English Literature*, 6th Edition. Edited by Margaret Drabble, Oxford University Press, 2000, p. 735.

282 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

283 <https://en.wikipedia.org/wiki/Special:BookSources/0-8308-1505-8>

284 [https://link.gale.com/apps/doc/K3446802128/BIC?u=lom\\_waynesu&sid=BIC&xid=90d7a6aa](https://link.gale.com/apps/doc/K3446802128/BIC?u=lom_waynesu&sid=BIC&xid=90d7a6aa)

285 [https://en.wikipedia.org/wiki/Doi\\_\(identifier\)](https://en.wikipedia.org/wiki/Doi_(identifier))

286 <https://doi.org/10.1353%2Ffrc.1986.0020>

287 [https://en.wikipedia.org/wiki/JSTOR\\_\(identifier\)](https://en.wikipedia.org/wiki/JSTOR_(identifier))

288 <http://www.jstor.org/stable/41975065>

289 [https://en.wikipedia.org/wiki/S2CID\\_\(identifier\)](https://en.wikipedia.org/wiki/S2CID_(identifier))

290 <https://api.semanticscholar.org/CorpusID:162369468>

291 <https://archive.org/details/greatthinkersofw00ianp/page/123>

292 [https://en.wikipedia.org/wiki/Harper\\_Collins](https://en.wikipedia.org/wiki/Harper_Collins)

293 <https://archive.org/details/greatthinkersofw00ianp/page/123>

294 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

295 <https://en.wikipedia.org/wiki/Special:BookSources/0-06-270026-X>

296 <http://wotug.org/parallel/www/occam/occam-bio.html>

297 [https://en.wikipedia.org/wiki/Cambridge\\_University\\_Press](https://en.wikipedia.org/wiki/Cambridge_University_Press)

298 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

299 <https://en.wikipedia.org/wiki/Special:BookSources/0-521-20284-1>

300 [https://en.wikipedia.org/wiki/Doi\\_\(identifier\)](https://en.wikipedia.org/wiki/Doi_(identifier))

301 <https://doi.org/10.1353%2Ffrc.1982.0011>

302 [https://en.wikipedia.org/wiki/JSTOR\\_\(identifier\)](https://en.wikipedia.org/wiki/JSTOR_(identifier))

303 <http://www.jstor.org/stable/41974990>

304 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

305 <https://en.wikipedia.org/wiki/Special:BookSources/0819909181>

306 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

307 <https://en.wikipedia.org/wiki/Special:BookSources/9780819909183>

308 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

309 <https://en.wikipedia.org/wiki/Special:BookSources/9781570753961>

27. BAIRD, FORREST E.; WALTER KAUFMANN (2008). *From Plato to Derrida*. Upper Saddle River, New Jersey: Pearson Prentice Hall. ISBN<sup>310</sup> 978-0-13-158591-1<sup>311</sup>.
28. One or more of the preceding sentences incorporates text from a publication now in the public domain<sup>312</sup>:  
WILLIAM TURNER (1913). "WILLIAM OF OCKHAM"<sup>313</sup>. IN HERBERMANN, CHARLES (ED.). *Catholic Encyclopedia*<sup>314</sup>. NEW YORK: ROBERT APPLETON COMPANY.
29. STANLEY J. GRENZ. *The Named God and the Question of Being: A Trinitarian Theo-Ontology*.
30. RUSSELL, BERTRAND (2000). *History of Western Philosophy*. Allen & Unwin<sup>315</sup>. pp. 462–463. ISBN<sup>316</sup> 0-415-22854-9<sup>317</sup>.
31. W. M. THORBURN (1918). "THE MYTH OF OCCAM'S RAZOR"<sup>318</sup>. *Mind*<sup>319</sup>. **27** (107): 345–353. doi<sup>320</sup>:10.1093/mind/XVII.3.345<sup>321</sup>. Retrieved 25 October 2006.
32. Spade, Paul Vincent (ed.). *The Cambridge Companion to Ockham*. Cambridge University Press, 1999, p. 104.
33. André Goddu, *The Physics of William of Ockham*, ISBN<sup>322</sup> 9004069127<sup>323</sup>, ISBN<sup>324</sup> 9789004069121<sup>325</sup>, Brill Academic Pub., 1984.
34. BROWER-TOLAND, S (2014). "WILLIAM OCKHAM ON THE SCOPE AND LIMITS OF CONSCIOUSNESS"<sup>326</sup>. *Vivarium*. **52** (3–4): 197–219. doi<sup>327</sup>:10.1163/15685349-12341275<sup>328</sup>.
35. William of Ockham (Stanford Encyclopedia of Philosophy): Stanford.edu<sup>329</sup>
36. "BRITISH ACADEMY – WILLIAM OF OCKHAM: DIALOGUS"<sup>330</sup>. www.britac.ac.uk.
37. Takashi Shogimen, *Ockham and Political Discourse in the Late Middle Ages* [1 ed.], ISBN<sup>331</sup> 0521845815<sup>332</sup>, ISBN<sup>333</sup> 9780521845816<sup>334</sup>, Cambridge University Press, 2007.

310 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

311 <https://en.wikipedia.org/wiki/Special:BookSources/978-0-13-158591-1>

312 [https://en.wikipedia.org/wiki/Public\\_domain](https://en.wikipedia.org/wiki/Public_domain)

313 [https://en.wikisource.org/wiki/Catholic\\_Encyclopedia\\_\(1913\)/William\\_of\\_Ockham](https://en.wikisource.org/wiki/Catholic_Encyclopedia_(1913)/William_of_Ockham)

314 [https://en.wikipedia.org/wiki/Catholic\\_Encyclopedia](https://en.wikipedia.org/wiki/Catholic_Encyclopedia)

315 [https://en.wikipedia.org/wiki/Allen\\_%26\\_Uwin](https://en.wikipedia.org/wiki/Allen_%26_Uwin)

316 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

317 <https://en.wikipedia.org/wiki/Special:BookSources/0-415-22854-9>

318 [https://en.wikisource.org/wiki/The\\_Myth\\_of\\_Occam%27s\\_Razor](https://en.wikisource.org/wiki/The_Myth_of_Occam%27s_Razor)

319 [https://en.wikipedia.org/wiki/Mind\\_\(journal\)](https://en.wikipedia.org/wiki/Mind_(journal))

320 [https://en.wikipedia.org/wiki/Doi\\_\(identifier\)](https://en.wikipedia.org/wiki/Doi_(identifier))

321 <https://doi.org/10.1093%2Fmind%2FXXVII.3.345>

322 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

323 <https://en.wikipedia.org/wiki/Special:BookSources/9004069127>

324 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

325 <https://en.wikipedia.org/wiki/Special:BookSources/9789004069121>

326 <https://philpapers.org/rec/BROQOO>

327 [https://en.wikipedia.org/wiki/Doi\\_\(identifier\)](https://en.wikipedia.org/wiki/Doi_(identifier))

328 <https://doi.org/10.1163%2F15685349-12341275>

329 <https://plato.stanford.edu/entries/ockham/#8>

330 <http://www.britac.ac.uk/pubs/dialogus/ockdial.html>

331 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

332 <https://en.wikipedia.org/wiki/Special:BookSources/0521845815>

333 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

334 <https://en.wikipedia.org/wiki/Special:BookSources/9780521845816>

38. Virpi Mäkinen, *Keskiajan aatehistoria*, Atena Kustannus Oy, Jyväskylä, 2003, ISBN<sup>335</sup> 9517963106<sup>336</sup>, ISBN<sup>337</sup> 9789517963107<sup>338</sup>. Pages 160, 167–168, 202, 204, 207–209.
39. In his *Summa Logicae*, part II, sections 32 and 33. Translated on page 80 of *Philosophical Writings*, tr. P. Boehner, rev. S. Brown, (Indianapolis, IN, 1990)
40. PRIEST, GRAHAM<sup>339</sup>; READ, S. (1977). "THE FORMALIZATION OF OCKHAM'S THEORY OF SUPPOSITION". *Mind*. **LXXXVI** (341): 109–113. doi<sup>340</sup>:10.1093/mind/LXXXVI.341.109<sup>341</sup>.
41. CORCORAN, JOHN<sup>342</sup>; SWINIARSKI, JOHN (1978). "LOGICAL STRUCTURES OF OCKHAM'S THEORY OF SUPPOSITION". *Franciscan Studies*. **38**: 161–83. doi<sup>343</sup>:10.1353/frc.1978.0010<sup>344</sup>. JSTOR<sup>345</sup> 41975391<sup>346</sup>. S2CID<sup>347</sup> 170450442<sup>348</sup>.
42. John Corcoran (1981). "Ockham's Syllogistic Semantics", *Journal of Symbolic Logic*, **46**: 197–198.
43. William H. Watts and Richard J. Utz, "Nominalist Influence on Chaucer's Poetry: A Bibliographical Essay," *Medievalia & Humanistica* 20 n.s. (1993), 147–73; Helen Ruth Andretta, *Chaucer's 'Troilus and Criseyde.' A Poet's Response to Ockhamism* (New York: Lang, 1997); Richard Utz, ed., *Literary Nominalism and the Theory of Rereading Late Medieval Texts: A New Research Paradigm*. Lewiston, NY: Mellen, 1995; *Nominalism and Literary Discourse: New Perspectives*. Ed. Hugo Keiper, R. Utz, and Christoph Bode. Amsterdam: Rodopi, 1997.
44. "JONATHAN ROBINSON"<sup>349</sup>. *individual.utoronto.ca*.

## 1.9 Further reading

- ADAMS, MARILYN<sup>350</sup> (1987). *William Ockham*. Notre Dame: University of Notre Dame Press. ISBN<sup>351</sup> 0-268-01940-1<sup>352</sup>.
- BECKMANN, JAN (1992). *Ockham-Bibliographie, 1900–1990*. Hamburg: F. Meiner Verlag. ISBN<sup>353</sup> 978-3-7873-1103-3<sup>354</sup>.

---

335 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

336 <https://en.wikipedia.org/wiki/Special:BookSources/9517963106>

337 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

338 <https://en.wikipedia.org/wiki/Special:BookSources/9789517963107>

339 [https://en.wikipedia.org/wiki/Graham\\_Priest](https://en.wikipedia.org/wiki/Graham_Priest)

340 [https://en.wikipedia.org/wiki/Doi\\_\(identifier\)](https://en.wikipedia.org/wiki/Doi_(identifier))

341 <https://doi.org/10.1093%2Fmind%2FLXXXVI.341.109>

342 [https://en.wikipedia.org/wiki/John\\_Corcoran\\_\(logician\)](https://en.wikipedia.org/wiki/John_Corcoran_(logician))

343 [https://en.wikipedia.org/wiki/Doi\\_\(identifier\)](https://en.wikipedia.org/wiki/Doi_(identifier))

344 <https://doi.org/10.1353%2Ffrc.1978.0010>

345 [https://en.wikipedia.org/wiki/JSTOR\\_\(identifier\)](https://en.wikipedia.org/wiki/JSTOR_(identifier))

346 <http://www.jstor.org/stable/41975391>

347 [https://en.wikipedia.org/wiki/S2CID\\_\(identifier\)](https://en.wikipedia.org/wiki/S2CID_(identifier))

348 <https://api.semanticscholar.org/CorpusID:170450442>

349 <http://individual.utoronto.ca/jwrobinson/#Translations>

350 [https://en.wikipedia.org/wiki/Marilyn\\_McCord\\_Adams](https://en.wikipedia.org/wiki/Marilyn_McCord_Adams)

351 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

352 <https://en.wikipedia.org/wiki/Special:BookSources/0-268-01940-1>

353 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

354 <https://en.wikipedia.org/wiki/Special:BookSources/978-3-7873-1103-3>

- FREPPERT, LUCAN (1988). *The Basis of Morality According to William Ockham*. Franciscan Herald Press. ISBN<sup>355</sup> 978-0-8199-0918-3<sup>356</sup>.
- KEELE, RONDO (2010). *Ockham Explained: From Razor to Rebellion*<sup>357</sup>. CHICAGO AND LA SALLE, ILLINOIS: OPEN COURT<sup>358</sup>. ISBN<sup>359</sup> 978-08126-965-09<sup>360</sup>. RETRIEVED 19 NOVEMBER 2012.
- KNYSH, GEORGE (1996). *Political Ockhamism*. Winnipeg: WCU Council of Learned Societies. ISBN<sup>361</sup> 978-1-896637-00-6<sup>362</sup>.
- LABELLARTE, ALBERTO (2015). *Logica, conoscenza e filosofia della natura in Guglielmo di Ockham*. Roma: Gruppo Albatros Il Filo. ISBN<sup>363</sup> 978-88-567-7421-4<sup>364</sup>.
- LENZEN, WOLFGANG (2015). "OCKHAM'S CALCULUS OF STRICT IMPLICATION". *Logica Universalis*<sup>365</sup>. 9 (2): 181–191. doi<sup>366</sup>:10.1007/s11787-014-0114-4<sup>367</sup>. S2CID<sup>368</sup> 11132528<sup>369</sup>.
- MCGRADY, ARTHUR STEPHEN (2002). *The Political Thought of William Ockham*. Cambridge University Press. ISBN<sup>370</sup> 978-0-521-52224-3<sup>371</sup>.
- PANACCIO, CLAUDE (2004). *Ockham on Concepts*. Aldershot: Ashgate. ISBN<sup>372</sup> 978-0-7546-3228-3<sup>373</sup>.
- PELLETIER, JENNY (2012). *William Ockham on Metaphysics. The Science of Being and God*. Leiden: Brill. ISBN<sup>374</sup> 978-9-0042-3015-6<sup>375</sup>.
- ROBINSON, JONATHAN (2012). *William of Ockham's Early Theory of Property Rights in Context*. Leiden: Brill. ISBN<sup>376</sup> 978-9-0042-4346-0<sup>377</sup>.
- SCHIERBAUM, SONJA (2014). *Ockham's Assumption of Mental Speech: Thinking in a World of Particulars*. Leiden: Brill. ISBN<sup>378</sup> 978-9-0042-7734-2<sup>379</sup>.
- SPADE, PAUL (1999). *The Cambridge Companion to Ockham*. Cambridge: Cambridge University Press. ISBN<sup>380</sup> 0-521-58244-X<sup>381</sup>.

355 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

356 <https://en.wikipedia.org/wiki/Special:BookSources/978-0-8199-0918-3>

357 <https://books.google.com/books?id=ErwS66U8ZWOC>

358 [https://en.wikipedia.org/wiki/Open\\_Court\\_Publishing\\_Company](https://en.wikipedia.org/wiki/Open_Court_Publishing_Company)

359 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

360 <https://en.wikipedia.org/wiki/Special:BookSources/978-08126-965-09>

361 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

362 <https://en.wikipedia.org/wiki/Special:BookSources/978-1-896637-00-6>

363 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

364 <https://en.wikipedia.org/wiki/Special:BookSources/978-88-567-7421-4>

365 [https://en.wikipedia.org/wiki/Logica\\_Universalis](https://en.wikipedia.org/wiki/Logica_Universalis)

366 [https://en.wikipedia.org/wiki/Doi\\_\(identifier\)](https://en.wikipedia.org/wiki/Doi_(identifier))

367 <https://doi.org/10.1007%2Fs11787-014-0114-4>

368 [https://en.wikipedia.org/wiki/S2CID\\_\(identifier\)](https://en.wikipedia.org/wiki/S2CID_(identifier))

369 <https://api.semanticscholar.org/CorpusID:11132528>

370 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

371 <https://en.wikipedia.org/wiki/Special:BookSources/978-0-521-52224-3>

372 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

373 <https://en.wikipedia.org/wiki/Special:BookSources/978-0-7546-3228-3>

374 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

375 <https://en.wikipedia.org/wiki/Special:BookSources/978-9-0042-3015-6>

376 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

377 <https://en.wikipedia.org/wiki/Special:BookSources/978-9-0042-4346-0>

378 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

379 <https://en.wikipedia.org/wiki/Special:BookSources/978-9-0042-7734-2>

380 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

381 <https://en.wikipedia.org/wiki/Special:BookSources/0-521-58244-X>

- WOOD, REGA (1997). *Ockham on the Virtues*. Purdue University Press. ISBN<sup>382</sup> 978-1-55753-097-4<sup>383</sup>.

## 1.10 External links

Wikiquote has quotations related to: **William of Ockham**<sup>384</sup>

Wikisource<sup>385</sup> has original works written by or about:  
**William of Ockham**<sup>386</sup>

- Mediaeval Logic and Philosophy<sup>387</sup>, maintained by Paul Vincent Spade
- William of Ockham<sup>388</sup> at the Internet Encyclopedia of Philosophy<sup>389</sup>
- William of Ockham biography<sup>390</sup> at University of St Andrews, Scotland
- Dialogus, text translation and studies<sup>391</sup> at British Academy, UK
- The Nominalist Ontology of William of Ockham<sup>392</sup>, with an annotated bibliography
- Richard Utz and Terry Barakat, "Medieval Nominalism and the Literary Questions: Selected Studies." *Perspicuitas*<sup>393</sup>
- The Myth of Occam's Razor<sup>394</sup> by William M. Thorburn (1918)
- BBC Radio 4 'In Our Time' programme on Ockham<sup>395</sup> Download and listen
- Literature by and about William of Ockham<sup>396</sup> in the German National Library<sup>397</sup> catalogue
- Works by and about William of Ockham<sup>398</sup> in the Deutsche Digitale Bibliothek<sup>399</sup> (German Digital Library)
- "OCCAM, GUILLEMUS"<sup>400</sup>. *Repertorium "Historical Sources of the German Middle Ages"* (*Geschichtsquellen des deutschen Mittelalters*).

### Links to related articles

---

382 [https://en.wikipedia.org/wiki/ISBN\\_\(identifier\)](https://en.wikipedia.org/wiki/ISBN_(identifier))

383 <https://en.wikipedia.org/wiki/Special:BookSources/978-1-55753-097-4>

384 [https://en.wikiquote.org/wiki/Special:Search/William\\_of\\_Ockham](https://en.wikiquote.org/wiki/Special:Search/William_of_Ockham)

385 <https://en.wikipedia.org/wiki/Wikisource>

386 [https://en.wikisource.org/wiki/Author:William\\_of\\_Ockham](https://en.wikisource.org/wiki/Author:William_of_Ockham)

387 <http://pvspade.com/Logic/>

388 <http://www.utm.edu/research/iep/o/ockham.htm>

389 [https://en.wikipedia.org/wiki/Internet\\_Encyclopedia\\_of\\_Philosophy](https://en.wikipedia.org/wiki/Internet_Encyclopedia_of_Philosophy)

390 <https://web.archive.org/web/20030211022954/http://www-gap.dcs.st-and.ac.uk/~history/Mathematicians/Ockham.html>

391 <http://www.britac.ac.uk/pubs/dialogus/wtc.html>

392 <https://www.ontology.co/william-ockham.htm>

393 [http://www.uni-due.de/imperia/md/content/perspicuitas/nominalism\\_medieval.pdf](http://www.uni-due.de/imperia/md/content/perspicuitas/nominalism_medieval.pdf)

394 [https://en.wikisource.org/wiki/The\\_Myth\\_of\\_Occam%27s\\_Razor](https://en.wikisource.org/wiki/The_Myth_of_Occam%27s_Razor)

395 [http://www.bbc.co.uk/radio4/history/inourtime/inourtime\\_20070531.shtml](http://www.bbc.co.uk/radio4/history/inourtime/inourtime_20070531.shtml)

396 <https://portal.dnb.de/opac.htm?method=simpleSearch&cqlMode=true&query=idn%3D118633015>

397 [https://en.wikipedia.org/wiki/German\\_National\\_Library](https://en.wikipedia.org/wiki/German_National_Library)

398 <http://www.deutsche-digitale-bibliothek.de/entity/118633015>

399 [https://en.wikipedia.org/wiki/Deutsche\\_Digitale\\_Bibliothek](https://en.wikipedia.org/wiki/Deutsche_Digitale_Bibliothek)

400 [http://www.geschichtsquellen.de/repPers\\_118633015.html](http://www.geschichtsquellen.de/repPers_118633015.html)

## Authority control

- This page was last edited on 16 March 2022, at 20:29 (UTC).
- Text is available under the Creative Commons Attribution-ShareAlike License 3.0<sup>401</sup><sup>402</sup>; additional terms may apply. By using this site, you agree to the Terms of Use<sup>403</sup> and Privacy Policy<sup>404</sup>. Wikipedia® is a registered trademark of the Wikimedia Foundation, Inc.<sup>405</sup>, a non-profit organization.

---

401 [http://en.wikipedia.org/wiki/Wikipedia:Text\\_of\\_Creative\\_Commons\\_Attribution-ShareAlike\\_3.0\\_Unported\\_License](http://en.wikipedia.org/wiki/Wikipedia:Text_of_Creative_Commons_Attribution-ShareAlike_3.0_Unported_License)  
402 <http://creativecommons.org/licenses/by-sa/3.0/>  
403 [http://foundation.wikimedia.org/wiki/Terms\\_of\\_Use](http://foundation.wikimedia.org/wiki/Terms_of_Use)  
404 [http://foundation.wikimedia.org/wiki/Privacy\\_policy](http://foundation.wikimedia.org/wiki/Privacy_policy)  
405 <http://www.wikimediafoundation.org/>



## 2 Contributors

Edits	User
1	(aeropagitica) <sup>1</sup>
1	1297 <sup>2</sup>
1	A Geek Tragedy <sup>3</sup>
1	A1Cafel <sup>4</sup>
1	Abanima <sup>5</sup>
1	Abductive <sup>6</sup>
1	Aboudaqn <sup>7</sup>
1	Adam Brink <sup>8</sup>
1	Addbot <sup>9</sup>
1	Afernand74 <sup>10</sup>
2	Akasseb <sup>11</sup>
1	Alexbot <sup>12</sup>
1	AlphaBetaGamma01 <sup>13</sup>
1	Ambrosius007 <sup>14</sup>
1	Amirobot <sup>15</sup>
1	Amoigni <sup>16</sup>
2	AndersBot <sup>17</sup>
1	Android Mouse Bot 3 <sup>18</sup>
2	Angela <sup>19</sup>
3	AnomieBOT <sup>20</sup>
2	Antandrus <sup>21</sup>

- 
- 1 [https://en.wikipedia.org/wiki/User:\(aeropagitica\)](https://en.wikipedia.org/wiki/User:(aeropagitica))
  - 2 <https://en.wikipedia.org/wiki/User:1297>
  - 3 [https://en.wikipedia.org/wiki/User:A\\_Geek\\_Tragedy](https://en.wikipedia.org/wiki/User:A_Geek_Tragedy)
  - 4 <https://en.wikipedia.org/wiki/User:A1Cafel>
  - 5 <https://en.wikipedia.org/w/index.php%3ftitle=User:Abanima&action=edit&redlink=1>
  - 6 <https://en.wikipedia.org/wiki/User:Abductive>
  - 7 <https://en.wikipedia.org/wiki/User:Aboudaqn>
  - 8 [https://en.wikipedia.org/w/index.php%3ftitle=User:Adam\\_Brink&action=edit&redlink=1](https://en.wikipedia.org/w/index.php%3ftitle=User:Adam_Brink&action=edit&redlink=1)
  - 9 <https://en.wikipedia.org/wiki/User:Addbot>
  - 10 <https://en.wikipedia.org/wiki/User:Afernand74>
  - 11 <https://en.wikipedia.org/wiki/User:Akasseb>
  - 12 <https://en.wikipedia.org/wiki/User:Alexbot>
  - 13 <https://en.wikipedia.org/wiki/User:AlphaBetaGamma01>
  - 14 <https://en.wikipedia.org/wiki/User:Ambrosius007>
  - 15 <https://en.wikipedia.org/wiki/User:Amirobot>
  - 16 <https://en.wikipedia.org/w/index.php%3ftitle=User:Amoigni&action=edit&redlink=1>
  - 17 <https://en.wikipedia.org/wiki/User:AndersBot>
  - 18 [https://en.wikipedia.org/wiki/User:Android\\_Mouse\\_Bot\\_3](https://en.wikipedia.org/wiki/User:Android_Mouse_Bot_3)
  - 19 <https://en.wikipedia.org/wiki/User:Angela>
  - 20 <https://en.wikipedia.org/wiki/User:AnomieBOT>
  - 21 <https://en.wikipedia.org/wiki/User:Antandrus>

1 Anthrophilos<sup>22</sup>  
11 Antique Rose<sup>23</sup>  
1 Arjayay<sup>24</sup>  
1 ArthurBot<sup>25</sup>  
1 Artimaean<sup>26</sup>  
1 Astynax<sup>27</sup>  
1 Attilios<sup>28</sup>  
1 AugPi<sup>29</sup>  
1 Autrecourt<sup>30</sup>  
1 Avoided<sup>31</sup>  
2 Aza24<sup>32</sup>  
1 BG19bot<sup>33</sup>  
1 Bdesham<sup>34</sup>  
1 BenJonson<sup>35</sup>  
3 Bender235<sup>36</sup>  
1 Bensin<sup>37</sup>  
1 Bermicourt<sup>38</sup>  
1 Between the stacks<sup>39</sup>  
2 Bgwhite<sup>40</sup>  
1 Bluebot<sup>41</sup>  
2 BotMultichill<sup>42</sup>  
1 Brandmeister<sup>43</sup>  
1 Briangotts<sup>44</sup>  
1 Brunellus<sup>45</sup>  
1 Bua333<sup>46</sup>

- 
- 22 <https://en.wikipedia.org/wiki/User:Anthrophilos>  
23 [https://en.wikipedia.org/wiki/User:Antique\\_Rose](https://en.wikipedia.org/wiki/User:Antique_Rose)  
24 <https://en.wikipedia.org/wiki/User:Arjayay>  
25 <https://en.wikipedia.org/wiki/User:ArthurBot>  
26 <https://en.wikipedia.org/wiki/User:Artimaean>  
27 <https://en.wikipedia.org/wiki/User:Astynax>  
28 <https://en.wikipedia.org/wiki/User:Attilios>  
29 <https://en.wikipedia.org/wiki/User:AugPi>  
30 <https://en.wikipedia.org/wiki/User:Autrecourt>  
31 <https://en.wikipedia.org/wiki/User:Avoided>  
32 <https://en.wikipedia.org/wiki/User:Aza24>  
33 <https://en.wikipedia.org/wiki/User:BG19bot>  
34 <https://en.wikipedia.org/wiki/User:Bdesham>  
35 <https://en.wikipedia.org/wiki/User:BenJonson>  
36 <https://en.wikipedia.org/wiki/User:Bender235>  
37 <https://en.wikipedia.org/wiki/User:Bensin>  
38 <https://en.wikipedia.org/wiki/User:Bermicourt>  
39 [https://en.wikipedia.org/wiki/User:Between\\_the\\_stacks](https://en.wikipedia.org/wiki/User:Between_the_stacks)  
40 <https://en.wikipedia.org/w/index.php?title=User:Bgwhite&action=edit&redlink=1>  
41 <https://en.wikipedia.org/wiki/User:Bluebot>  
42 <https://en.wikipedia.org/wiki/User:BotMultichill>  
43 <https://en.wikipedia.org/wiki/User:Brandmeister>  
44 <https://en.wikipedia.org/wiki/User:Briangotts>  
45 <https://en.wikipedia.org/wiki/User:Brunellus>  
46 <https://en.wikipedia.org/wiki/User:Bua333>

- 6 Bungalowbill430<sup>47</sup>
- 1 Carbuncle<sup>48</sup>
- 1 CataracticPlanets<sup>49</sup>
- 2 Catsmoke<sup>50</sup>
- 2 Charles Matthews<sup>51</sup>
- 1 CharlesDexterWard<sup>52</sup>
- 1 Chevauxmargaux<sup>53</sup>
- 1 Chewings72<sup>54</sup>
- 5 Chobot<sup>55</sup>
- 1 Ciphers<sup>56</sup>
- 3 Citation bot<sup>57</sup>
- 1 Clinamental<sup>58</sup>
- 6 ClueBot NG<sup>59</sup>
- 2 CommonsDelinker<sup>60</sup>
- 3 Consbuonomo<sup>61</sup>
- 2 Consequentially<sup>62</sup>
- 1 Conversion script<sup>63</sup>
- 1 Costco nostra<sup>64</sup>
- 1 CsDix<sup>65</sup>
- 1 Cuchullain<sup>66</sup>
- 1 Curpsbot-unicodify<sup>67</sup>
- 10 Cydebot<sup>68</sup>
- 1 D'Agosta<sup>69</sup>
- 1 D4rk0<sup>70</sup>
- 2 D6<sup>71</sup>

---

```

47 https://en.wikipedia.org/w/index.php?title=User:Bungalowbill430&action=edit&
redlink=1
48 https://en.wikipedia.org/wiki/User:Carbuncle
49 https://en.wikipedia.org/wiki/User:CataracticPlanets
50 https://en.wikipedia.org/wiki/User:Catsmoke
51 https://en.wikipedia.org/wiki/User:Charles_Matthews
52 https://en.wikipedia.org/wiki/User:CharlesDexterWard
53 https://en.wikipedia.org/w/index.php?title=User:Chevauxmargaux&action=edit&redlink=
1
54 https://en.wikipedia.org/wiki/User:Chewings72
55 https://en.wikipedia.org/wiki/User:Chobot
56 https://en.wikipedia.org/wiki/User:Ciphers
57 https://en.wikipedia.org/wiki/User:Citation_bot
58 https://en.wikipedia.org/w/index.php?title=User:Clinamental&action=edit&redlink=1
59 https://en.wikipedia.org/wiki/User:ClueBot_NG
60 https://en.wikipedia.org/wiki/User:CommonsDelinker
61 https://en.wikipedia.org/wiki/User:Consbuonomo
62 https://en.wikipedia.org/wiki/User:Consequentially
63 https://en.wikipedia.org/wiki/User:Conversion_script
64 https://en.wikipedia.org/w/index.php?title=User:Costco_nostra&action=edit&redlink=1
65 https://en.wikipedia.org/wiki/User:CsDix
66 https://en.wikipedia.org/wiki/User:Cuchullain
67 https://en.wikipedia.org/wiki/User:Curpsbot-unicodify
68 https://en.wikipedia.org/wiki/User:Cydebot
69 https://en.wikipedia.org/wiki/User:D%2527Agosta
70 https://en.wikipedia.org/wiki/User:D4rk0
71 https://en.wikipedia.org/wiki/User:D6

```

3 DIYeditor<sup>72</sup>  
1 DShamen<sup>73</sup>  
1 DanielCD<sup>74</sup>  
1 Darwinek<sup>75</sup>  
1 Dcirovic<sup>76</sup>  
9 Debivort<sup>77</sup>  
4 Deglr6328<sup>78</sup>  
1 Derek Ross<sup>79</sup>  
1 Dick Shane<sup>80</sup>  
11 Dicklyon<sup>81</sup>  
1 Dins Scotis<sup>82</sup>  
1 Discospinster<sup>83</sup>  
1 Dishcmds<sup>84</sup>  
1 Djnjwd<sup>85</sup>  
1 DorganBot<sup>86</sup>  
1 Dr. Submillimeter<sup>87</sup>  
2 Dthurm<sup>88</sup>  
2 Dusoft<sup>89</sup>  
1 Dycedarg<sup>90</sup>  
8 EOD0905<sup>91</sup>  
1 EamonnPKeane<sup>92</sup>  
5 Ed Poor<sup>93</sup>  
1 EdMcCorduck<sup>94</sup>  
10 Editor2020<sup>95</sup>  
1 Ehrenkater<sup>96</sup>

---

72 <https://en.wikipedia.org/wiki/User:DIYeditor>  
73 <https://en.wikipedia.org/wiki/User:DShamen>  
74 <https://en.wikipedia.org/wiki/User:DanielCD>  
75 <https://en.wikipedia.org/wiki/User:Darwinek>  
76 <https://en.wikipedia.org/wiki/User:Dcirovic>  
77 <https://en.wikipedia.org/wiki/User:Debivort>  
78 <https://en.wikipedia.org/wiki/User:Deglr6328>  
79 [https://en.wikipedia.org/wiki/User:Derek\\_Ross](https://en.wikipedia.org/wiki/User:Derek_Ross)  
80 [https://en.wikipedia.org/wiki/User:Dick\\_Shane](https://en.wikipedia.org/wiki/User:Dick_Shane)  
81 <https://en.wikipedia.org/wiki/User:Dickeyon>  
82 [https://en.wikipedia.org/w/index.php?title=User:Dins\\_Scotis&action=edit&redlink=1](https://en.wikipedia.org/w/index.php?title=User:Dins_Scotis&action=edit&redlink=1)  
83 <https://en.wikipedia.org/wiki/User:Discospinster>  
84 <https://en.wikipedia.org/wiki/User:Dishcmds>  
85 <https://en.wikipedia.org/wiki/User:Djnjwd>  
86 <https://en.wikipedia.org/wiki/User:DorganBot>  
87 [https://en.wikipedia.org/wiki/User:Dr.\\_Submillimeter](https://en.wikipedia.org/wiki/User:Dr._Submillimeter)  
88 <https://en.wikipedia.org/w/index.php?title=User:Dthurm&action=edit&redlink=1>  
89 <https://en.wikipedia.org/wiki/User:Dusoft>  
90 <https://en.wikipedia.org/wiki/User:Dycedarg>  
91 <https://en.wikipedia.org/w/index.php?title=User:EOD0905&action=edit&redlink=1>  
92 <https://en.wikipedia.org/wiki/User:EamonnPKeane>  
93 [https://en.wikipedia.org/wiki/User:Ed\\_Poor](https://en.wikipedia.org/wiki/User:Ed_Poor)  
94 <https://en.wikipedia.org/wiki/User:EdMcCorduck>  
95 <https://en.wikipedia.org/wiki/User:Editor2020>  
96 <https://en.wikipedia.org/wiki/User:Ehrenkater>

---

1 Ekwos<sup>97</sup>  
 3 El C<sup>98</sup>  
 1 El Sandifer<sup>99</sup>  
 1 Elindstr<sup>100</sup>  
 1 Ellesongun<sup>101</sup>  
 1 Eloquence<sup>102</sup>  
 2 EmausBot<sup>103</sup>  
 1 Endymion.12<sup>104</sup>  
 1 Epn10<sup>105</sup>  
 1 Ernio48<sup>106</sup>  
 1 Esperantoil<sup>107</sup>  
 1 Esszet<sup>108</sup>  
 1 EstherLois<sup>109</sup>  
 1 ExAstra<sup>110</sup>  
 1 Extraordinary Writ<sup>111</sup>  
 2 FeRDNYC<sup>112</sup>  
 1 Federico Leva (BEIC)<sup>113</sup>  
 1 Feminist<sup>114</sup>  
 4 Finnusertop<sup>115</sup>  
 1 FiredanceThroughTheNight<sup>116</sup>  
 3 FlaBot<sup>117</sup>  
 4 Francvs<sup>118</sup>  
 5 Freeknowledgecreator<sup>119</sup>  
 2 FrescoBot<sup>120</sup>  
 1 Gaius Cornelius<sup>121</sup>

- 
- 97 <https://en.wikipedia.org/w/index.php?title=User:Ekwos&action=edit&redlink=1>  
 98 [https://en.wikipedia.org/wiki/User:El\\_C](https://en.wikipedia.org/wiki/User:El_C)  
 99 [https://en.wikipedia.org/wiki/User:El\\_Sandifer](https://en.wikipedia.org/wiki/User:El_Sandifer)  
 100 <https://en.wikipedia.org/wiki/User:Elindstr>  
 101 <https://en.wikipedia.org/wiki/User:Ellesongun>  
 102 <https://en.wikipedia.org/wiki/User:Eloquence>  
 103 <https://en.wikipedia.org/wiki/User:EmausBot>  
 104 <https://en.wikipedia.org/wiki/User:Endymion.12>  
 105 <https://en.wikipedia.org/w/index.php?title=User:Epn10&action=edit&redlink=1>  
 106 <https://en.wikipedia.org/wiki/User:Ernio48>  
 107 <https://en.wikipedia.org/w/index.php?title=User:Esperantoil&action=edit&redlink=1>  
 108 <https://en.wikipedia.org/w/index.php?title=User:Esszet&action=edit&redlink=1>  
 109 <https://en.wikipedia.org/wiki/User:EstherLois>  
 110 <https://en.wikipedia.org/w/index.php?title=User:ExAstra&action=edit&redlink=1>  
 111 [https://en.wikipedia.org/wiki/User:Extraordinary\\_Writ](https://en.wikipedia.org/wiki/User:Extraordinary_Writ)  
 112 <https://en.wikipedia.org/wiki/User:FeRDNYC>  
 113 [https://en.wikipedia.org/wiki/User:Federico\\_Leva\\_\(BEIC\)](https://en.wikipedia.org/wiki/User:Federico_Leva_(BEIC))  
 114 <https://en.wikipedia.org/wiki/User:Feminist>  
 115 <https://en.wikipedia.org/wiki/User:Finnusertop>  
 116 <https://en.wikipedia.org/w/index.php?title=User:FiredanceThroughTheNight&action=edit&redlink=1>  
 117 <https://en.wikipedia.org/wiki/User:FlaBot>  
 118 <https://en.wikipedia.org/w/index.php?title=User:Francvs&action=edit&redlink=1>  
 119 <https://en.wikipedia.org/wiki/User:Freeknowledgecreator>  
 120 <https://en.wikipedia.org/wiki/User:FrescoBot>  
 121 [https://en.wikipedia.org/wiki/User:Gaius\\_Cornelius](https://en.wikipedia.org/wiki/User:Gaius_Cornelius)

- 1 Galo1969X<sup>122</sup>
- 1 Gamingexpert<sup>123</sup>
- 1 GiantSnowman<sup>124</sup>
- 1 Giftlite<sup>125</sup>
- 1 Gilgamesh\_he<sup>126</sup>
- 1 Gilliam<sup>127</sup>
- 1 Gipsy1<sup>128</sup>
- 1 Gnomingstuff<sup>129</sup>
- 1 Go\_for\_it!<sup>130</sup>
- 1 Good\_Olfactory<sup>131</sup>
- 1 Graham87<sup>132</sup>
- 1 Grantypants<sup>133</sup>
- 1 GreenC\_bot<sup>134</sup>
- 5 Gregbard<sup>135</sup>
- 1 Grstratford<sup>136</sup>
- 1 Guaka<sup>137</sup>
- 1 Gypsiesoul420<sup>138</sup>
- 1 Hede2000<sup>139</sup>
- 1 Helper201<sup>140</sup>
- 1 Helpful\_Pixie\_Bot<sup>141</sup>
- 1 HerculeBot<sup>142</sup>
- 6 Heron<sup>143</sup>
- 1 Hirzel<sup>144</sup>
- 1 Homagetocatalonia<sup>145</sup>
- 2 Howcheng<sup>146</sup>

---

122 <https://en.wikipedia.org/wiki/User:Galo1969X>  
123 <https://en.wikipedia.org/wiki/User:Gamingexpert>  
124 <https://en.wikipedia.org/wiki/User:GiantSnowman>  
125 <https://en.wikipedia.org/wiki/User:Giftlite>  
126 [https://en.wikipedia.org/wiki/User:Gilgamesh\\_he](https://en.wikipedia.org/wiki/User:Gilgamesh_he)  
127 <https://en.wikipedia.org/wiki/User:Gilliam>  
128 <https://en.wikipedia.org/w/index.php?title=User:Gipsy1&action=edit&redlink=1>  
129 <https://en.wikipedia.org/wiki/User:Gnomingstuff>  
130 [https://en.wikipedia.org/wiki/User:Go\\_for\\_it!](https://en.wikipedia.org/wiki/User:Go_for_it!)  
131 [https://en.wikipedia.org/wiki/User:Good\\_Olfactory](https://en.wikipedia.org/wiki/User:Good_Olfactory)  
132 <https://en.wikipedia.org/wiki/User:Graham87>  
133 <https://en.wikipedia.org/w/index.php?title=User:Grantypants&action=edit&redlink=1>  
134 [https://en.wikipedia.org/wiki/User:GreenC\\_bot](https://en.wikipedia.org/wiki/User:GreenC_bot)  
135 <https://en.wikipedia.org/wiki/User:Gregbard>  
136 <https://en.wikipedia.org/w/index.php?title=User:Grstratford&action=edit&redlink=1>  
137 <https://en.wikipedia.org/wiki/User:Guaka>  
138 <https://en.wikipedia.org/wiki/User:Gypsiesoul420>  
139 <https://en.wikipedia.org/wiki/User:Hede2000>  
140 <https://en.wikipedia.org/w/index.php?title=User:Helper201&action=edit&redlink=1>  
141 [https://en.wikipedia.org/wiki/User:Helpful\\_Pixie\\_Bot](https://en.wikipedia.org/wiki/User:Helpful_Pixie_Bot)  
142 <https://en.wikipedia.org/wiki/User:HerculeBot>  
143 <https://en.wikipedia.org/wiki/User:Heron>  
144 <https://en.wikipedia.org/wiki/User:Hirzel>  
145 <https://en.wikipedia.org/wiki/User:Homagetocatalonia>  
146 <https://en.wikipedia.org/wiki/User:Howcheng>

1 Hyacinth<sup>147</sup>  
3 InternetArchiveBot<sup>148</sup>  
1 Inwind<sup>149</sup>  
1 Ishdarian<sup>150</sup>  
1 JAnDbot<sup>151</sup>  
1 JKleck<sup>152</sup>  
1 JaGa<sup>153</sup>  
1 JackofOz<sup>154</sup>  
2 JackyR<sup>155</sup>  
2 Jaraalbe<sup>156</sup>  
1 Jauerback<sup>157</sup>  
1 Jeronimo<sup>158</sup>  
1 Jesusito<sup>159</sup>  
1 Jimmaths<sup>160</sup>  
7 Jjshapiro<sup>161</sup>  
1 JoeBot<sup>162</sup>  
1 Joeoettinger<sup>163</sup>  
3 John<sup>164</sup>  
1 John Carter<sup>165</sup>  
4 John Vandenberg<sup>166</sup>  
2 Jojalozzo<sup>167</sup>  
31 Jon Awbrey<sup>168</sup>  
1 Josebarbosa<sup>169</sup>  
1 Josh Parris<sup>170</sup>  
1 Josteinn<sup>171</sup>

- 
- 147 <https://en.wikipedia.org/wiki/User:Hyacinth>  
148 <https://en.wikipedia.org/wiki/User:InternetArchiveBot>  
149 <https://en.wikipedia.org/wiki/User:Inwind>  
150 <https://en.wikipedia.org/wiki/User:Ishdarian>  
151 <https://en.wikipedia.org/wiki/User:JAnDbot>  
152 <https://en.wikipedia.org/wiki/User:JKleck>  
153 <https://en.wikipedia.org/wiki/User:JaGa>  
154 <https://en.wikipedia.org/wiki/User:JackofOz>  
155 <https://en.wikipedia.org/wiki/User:JackyR>  
156 <https://en.wikipedia.org/wiki/User:Jaraalbe>  
157 <https://en.wikipedia.org/wiki/User:Jauerback>  
158 <https://en.wikipedia.org/wiki/User:Jeronimo>  
159 <https://en.wikipedia.org/wiki/User:Jesusito>  
160 <https://en.wikipedia.org/w/index.php?title=User:Jimmaths&action=edit&redlink=1>  
161 <https://en.wikipedia.org/wiki/User:Jjshapiro>  
162 <https://en.wikipedia.org/wiki/User:JoeBot>  
163 <https://en.wikipedia.org/w/index.php?title=User:Joeoettinger&action=edit&redlink=1>  
164 <https://en.wikipedia.org/wiki/User:John>  
165 [https://en.wikipedia.org/wiki/User:John\\_Carter](https://en.wikipedia.org/wiki/User:John_Carter)  
166 [https://en.wikipedia.org/wiki/User:John\\_Vandenberg](https://en.wikipedia.org/wiki/User:John_Vandenberg)  
167 <https://en.wikipedia.org/wiki/User:Jojalozzo>  
168 [https://en.wikipedia.org/wiki/User:Jon\\_Awbrey](https://en.wikipedia.org/wiki/User:Jon_Awbrey)  
169 <https://en.wikipedia.org/w/index.php?title=User:Josebarbosa&action=edit&redlink=1>  
170 [https://en.wikipedia.org/wiki/User:Josh\\_Parris](https://en.wikipedia.org/wiki/User:Josh_Parris)  
171 <https://en.wikipedia.org/wiki/User:Josteinn>

- 1 Josvebot<sup>172</sup>
- 1 Jotterbot<sup>173</sup>
- 5 Jpbowen<sup>174</sup>
- 1 KamikazeBot<sup>175</sup>
- 1 KasparBot<sup>176</sup>
- 1 Katieh5584<sup>177</sup>
- 1 Kbdank71<sup>178</sup>
- 1 Kcallen78<sup>179</sup>
- 1 Keith D<sup>180</sup>
- 1 Ketiltrout<sup>181</sup>
- 1 KevinWho<sup>182</sup>
- 2 Keynyn<sup>183</sup>
- 1 Klemen Kocjancic<sup>184</sup>
- 1 Kluffington<sup>185</sup>
- 1 Kmj47<sup>186</sup>
- 1 Knights who say ni<sup>187</sup>
- 2 Knucmo2<sup>188</sup>
- 1 Koavf<sup>189</sup>
- 1 Kripkenstein<sup>190</sup>
- 2 Kwamikagami<sup>191</sup>
- 1 Kzollman<sup>192</sup>
- 1 LahmacunKebab<sup>193</sup>
- 2 Lambiam<sup>194</sup>
- 1 Larkhillv<sup>195</sup>
- 4 Latinist~enwiki<sup>196</sup>

---

172 <https://en.wikipedia.org/wiki/User:Josvebot>

173 <https://en.wikipedia.org/wiki/User:Jotterbot>

174 <https://en.wikipedia.org/wiki/User:Jpbowen>

175 <https://en.wikipedia.org/wiki/User:KamikazeBot>

176 <https://en.wikipedia.org/wiki/User:KasparBot>

177 <https://en.wikipedia.org/wiki/User:Katieh5584>

178 <https://en.wikipedia.org/wiki/User:Kbdank71>

179 <https://en.wikipedia.org/wiki/User:Kcallen78>

180 [https://en.wikipedia.org/wiki/User:Keith\\_D](https://en.wikipedia.org/wiki/User:Keith_D)

181 <https://en.wikipedia.org/wiki/User:Ketiltrout>

182 <https://en.wikipedia.org/w/index.php?title=User:KevinWho&action=edit&redlink=1>

183 <https://en.wikipedia.org/w/index.php?title=User:Keynyn&action=edit&redlink=1>

184 [https://en.wikipedia.org/wiki/User:Klemen\\_Kocjancic](https://en.wikipedia.org/wiki/User:Klemen_Kocjancic)

185 <https://en.wikipedia.org/w/index.php?title=User:Kluffington&action=edit&redlink=1>

186 <https://en.wikipedia.org/w/index.php?title=User:Kmj47&action=edit&redlink=1>

187 [https://en.wikipedia.org/wiki/User:Knights\\_who\\_say\\_ni](https://en.wikipedia.org/wiki/User:Knights_who_say_ni)

188 <https://en.wikipedia.org/wiki/User:Knucmo2>

189 <https://en.wikipedia.org/wiki/User:Koavf>

190 <https://en.wikipedia.org/w/index.php?title=User:Kripkenstein&action=edit&redlink=1>

191 <https://en.wikipedia.org/wiki/User:Kwamikagami>

192 <https://en.wikipedia.org/wiki/User:Kzollman>

193 <https://en.wikipedia.org/wiki/User:LahmacunKebab>

194 <https://en.wikipedia.org/wiki/User:Lambiam>

195 <https://en.wikipedia.org/w/index.php?title=User:Larkhillv&action=edit&redlink=1>

196 <https://en.wikipedia.org/wiki/User:Latinist~enwiki>

- 1 Le vin blanc<sup>197</sup>
- 2 Leinad-Z<sup>198</sup>
- 2 Lestrade<sup>199</sup>
- 1 Liftarn<sup>200</sup>
- 1 Lightbot<sup>201</sup>
- 1 Lightmouse<sup>202</sup>
- 4 Logicus<sup>203</sup>
- 2 Lotje<sup>204</sup>
- 2 Luc007<sup>205</sup>
- 2 Lucidish<sup>206</sup>
- 1 LucienBOT<sup>207</sup>
- 4 Luckas-bot<sup>208</sup>
- 3 Lucyluvssam<sup>209</sup>
- 1 Lycurgus<sup>210</sup>
- 1 Lyricmac<sup>211</sup>
- 2 M. Dingemanse<sup>212</sup>
- 1 MB<sup>213</sup>
- 1 Maarten van Vliet<sup>214</sup>
- 1 Magioladitis<sup>215</sup>
- 1 MalafayaBot<sup>216</sup>
- 1 Manu bcn<sup>217</sup>
- 1 MarcoTolo<sup>218</sup>
- 2 Marcocapelle<sup>219</sup>
- 1 Marcosoldfox<sup>220</sup>
- 1 MariaLeonice<sup>221</sup>

- 
- 197 [https://en.wikipedia.org/wiki/User:Le\\_vin\\_blancl](https://en.wikipedia.org/wiki/User:Le_vin_blancl)
  - 198 <https://en.wikipedia.org/wiki/User:Leinad-Z>
  - 199 <https://en.wikipedia.org/wiki/User:Lestrade>
  - 200 <https://en.wikipedia.org/wiki/User:Liftarn>
  - 201 <https://en.wikipedia.org/wiki/User:Lightbot>
  - 202 <https://en.wikipedia.org/wiki/User:Lightmouse>
  - 203 <https://en.wikipedia.org/w/index.php?title=User:Logicus&action=edit&redlink=1>
  - 204 <https://en.wikipedia.org/wiki/User:Lotje>
  - 205 <https://en.wikipedia.org/w/index.php?title=User:Luc007&action=edit&redlink=1>
  - 206 <https://en.wikipedia.org/wiki/User:Lucidish>
  - 207 <https://en.wikipedia.org/wiki/User:LucienBOT>
  - 208 <https://en.wikipedia.org/wiki/User:Luckas-bot>
  - 209 <https://en.wikipedia.org/w/index.php?title=User:Lucyluvssam&action=edit&redlink=1>
  - 210 <https://en.wikipedia.org/wiki/User:Lycurgus>
  - 211 <https://en.wikipedia.org/wiki/User:Lyricmac>
  - 212 [https://en.wikipedia.org/wiki/User:M.\\_Dingemanse](https://en.wikipedia.org/wiki/User:M._Dingemanse)
  - 213 <https://en.wikipedia.org/wiki/User:MB>
  - 214 [https://en.wikipedia.org/wiki/User:Maarten\\_van\\_Vliet](https://en.wikipedia.org/wiki/User:Maarten_van_Vliet)
  - 215 <https://en.wikipedia.org/wiki/User:Magioladitis>
  - 216 <https://en.wikipedia.org/wiki/User:MalafayaBot>
  - 217 [https://en.wikipedia.org/wiki/User:Manu\\_bcn](https://en.wikipedia.org/wiki/User:Manu_bcn)
  - 218 <https://en.wikipedia.org/wiki/User:MarcoTolo>
  - 219 <https://en.wikipedia.org/wiki/User:Marcocapelle>
  - 220 <https://en.wikipedia.org/w/index.php?title=User:Marcosoldfox&action=edit&redlink=1>
  - 221 <https://en.wikipedia.org/wiki/User:MariaLeonice>

- 1 Mark Christensen<sup>222</sup>  
1 Mark Ironie<sup>223</sup>  
2 Markhurd<sup>224</sup>  
1 Maros<sup>225</sup>  
2 Materialscientist<sup>226</sup>  
2 Mav<sup>227</sup>  
1 Mcc1789<sup>228</sup>  
1 Mephizzle<sup>229</sup>  
1 Mhardcastle<sup>230</sup>  
2 Mhhossein<sup>231</sup>  
1 Michael Hardy<sup>232</sup>  
1 MichaelTinkler<sup>233</sup>  
1 Michaelbusch<sup>234</sup>  
2 Mikhail Ryazanov<sup>235</sup>  
2 Mister.eratosthenes<sup>236</sup>  
2 MithrandirMage<sup>237</sup>  
1 Mnldata<sup>238</sup>  
1 Mnldata2<sup>239</sup>  
1 Mohsens<sup>240</sup>  
3 Monkbot<sup>241</sup>  
1 Mopcwiki<sup>242</sup>  
1 Moscarlop<sup>243</sup>  
1 Mschlindwein<sup>244</sup>  
1 Mswake<sup>245</sup>  
1 N00bcannonball<sup>246</sup>

---

222 [https://en.wikipedia.org/wiki/User:Mark\\_Christensen](https://en.wikipedia.org/wiki/User:Mark_Christensen)

223 [https://en.wikipedia.org/wiki/User:Mark\\_Ironie](https://en.wikipedia.org/wiki/User:Mark_Ironie)

224 <https://en.wikipedia.org/wiki/User:Markhurd>

225 <https://en.wikipedia.org/wiki/User:Maros>

226 <https://en.wikipedia.org/wiki/User:Materialscientist>

227 <https://en.wikipedia.org/wiki/User:Mav>

228 <https://en.wikipedia.org/wiki/User:Mcc1789>

229 <https://en.wikipedia.org/wiki/User:Mephizzle>

230 <https://en.wikipedia.org/wiki/User:Mhardcastle>

231 <https://en.wikipedia.org/wiki/User:Mhhossein>

232 [https://en.wikipedia.org/wiki/User:Michael\\_Hardy](https://en.wikipedia.org/wiki/User:Michael_Hardy)

233 <https://en.wikipedia.org/wiki/User:MichaelTinkler>

234 <https://en.wikipedia.org/wiki/User:Michaelbusch>

235 [https://en.wikipedia.org/wiki/User:Mikhail\\_Ryazanov](https://en.wikipedia.org/wiki/User:Mikhail_Ryazanov)

236 <https://en.wikipedia.org/wiki/User:Mister.eratosthenes>

237 <https://en.wikipedia.org/wiki/User:MithrandirMage>

238 <https://en.wikipedia.org/w/index.php?title=User:Mnldata&action=edit&redlink=1>

239 <https://en.wikipedia.org/w/index.php?title=User:Mnldata2&action=edit&redlink=1>

240 <https://en.wikipedia.org/w/index.php?title=User:Mohsens&action=edit&redlink=1>

241 <https://en.wikipedia.org/wiki/User:Monkbot>

242 <https://en.wikipedia.org/wiki/User:Mopcwiki>

243 <https://en.wikipedia.org/w/index.php?title=User:Moscarlop&action=edit&redlink=1>

244 <https://en.wikipedia.org/wiki/User:Mschlindwein>

245 <https://en.wikipedia.org/wiki/User:Mswake>

246 <https://en.wikipedia.org/w/index.php?title=User:N00bcannonball&action=edit&redlink=1>

- 5 NABRASA<sup>247</sup>
- 2 Naraht<sup>248</sup>
- 1 Ncameron<sup>249</sup>
- 1 Necrothesp<sup>250</sup>
- 4 Neptune's Trident<sup>251</sup>
- 2 Neuralwarp<sup>252</sup>
- 1 Niceguyedc<sup>253</sup>
- 4 Nicholas knstvr<sup>254</sup>
- 1 Nihiltres<sup>255</sup>
- 4 Nivaca<sup>256</sup>
- 1 Nizolan<sup>257</sup>
- 1 Nkayesmith<sup>258</sup>
- 4 Norm mit<sup>259</sup>
- 1 Noswall59<sup>260</sup>
- 36 Omnipaedista<sup>261</sup>
- 1 Only<sup>262</sup>
- 67 Ontoraul<sup>263</sup>
- 2 PBS-AWB<sup>264</sup>
- 1 PMLawrence<sup>265</sup>
- 1 POLY1956<sup>266</sup>
- 1 PPEMES<sup>267</sup>
- 3 PWilkinson<sup>268</sup>
- 17 Palthrow<sup>269</sup>
- 2 Paradocto<sup>270</sup>
- 1 Paul August<sup>271</sup>

- 
- 247 <https://en.wikipedia.org/wiki/User:NABRASA>
  - 248 <https://en.wikipedia.org/wiki/User:Naraht>
  - 249 <https://en.wikipedia.org/wiki/User:Ncameron>
  - 250 <https://en.wikipedia.org/wiki/User:Necrothesp>
  - 251 [https://en.wikipedia.org/wiki/User:Neptune%2527s\\_Trident](https://en.wikipedia.org/wiki/User:Neptune%2527s_Trident)
  - 252 <https://en.wikipedia.org/wiki/User:Neuralwarp>
  - 253 <https://en.wikipedia.org/wiki/User:Niceguyedc>
  - 254 [https://en.wikipedia.org/w/index.php?title=User:Nicholas\\_knstvr&action=edit&redlink=1](https://en.wikipedia.org/w/index.php?title=User:Nicholas_knstvr&action=edit&redlink=1)
  - 255 <https://en.wikipedia.org/wiki/User:Nihiltres>
  - 256 <https://en.wikipedia.org/wiki/User:Nivaca>
  - 257 <https://en.wikipedia.org/wiki/User:Nizolan>
  - 258 <https://en.wikipedia.org/w/index.php?title=User:Nkayesmith&action=edit&redlink=1>
  - 259 [https://en.wikipedia.org/wiki/User:Norm\\_mit](https://en.wikipedia.org/wiki/User:Norm_mit)
  - 260 <https://en.wikipedia.org/wiki/User:Noswall59>
  - 261 <https://en.wikipedia.org/wiki/User:Omnipaedista>
  - 262 <https://en.wikipedia.org/wiki/User:Only>
  - 263 <https://en.wikipedia.org/wiki/User:Ontoraul>
  - 264 <https://en.wikipedia.org/wiki/User:PBS-AWB>
  - 265 <https://en.wikipedia.org/w/index.php?title=User:PMLawrence&action=edit&redlink=1>
  - 266 <https://en.wikipedia.org/wiki/User:POLY1956>
  - 267 <https://en.wikipedia.org/wiki/User:PPEMES>
  - 268 <https://en.wikipedia.org/wiki/User:PWilkinson>
  - 269 <https://en.wikipedia.org/wiki/User:Palthrow>
  - 270 <https://en.wikipedia.org/wiki/User:Paradocto>
  - 271 [https://en.wikipedia.org/wiki/User:Paul\\_August](https://en.wikipedia.org/wiki/User:Paul_August)

- 4 Paul H Andrews II<sup>272</sup>  
2 Peter Isotalo<sup>273</sup>  
1 Philip Cross<sup>274</sup>  
1 Piano non troppo<sup>275</sup>  
1 Pictureuploader<sup>276</sup>  
1 Pisarz12345<sup>277</sup>  
1 Pittsburgh Poet<sup>278</sup>  
1 Pollinosisss<sup>279</sup>  
1 Porcher<sup>280</sup>  
1 Potosino<sup>281</sup>  
1 PrimeBOT<sup>282</sup>  
1 Proteus<sup>283</sup>  
12 Pseudo-Dionysius the areopagite<sup>284</sup>  
1 R.e.b.<sup>285</sup>  
1 RacoonyRE<sup>286</sup>  
1 RandomCritic<sup>287</sup>  
1 RaphaelQS<sup>288</sup>  
2 Rathfelder<sup>289</sup>  
1 Rbellin<sup>290</sup>  
1 RedBot<sup>291</sup>  
1 Rfl<sup>292</sup>  
2 RibotBOT<sup>293</sup>  
1 Rich Farmbrough<sup>294</sup>  
2 Richard Arthur Norton (1958- )<sup>295</sup>  
1 Robbe<sup>296</sup>

---

272 [https://en.wikipedia.org/wiki/User:Paul\\_H\\_Andrews\\_II](https://en.wikipedia.org/wiki/User:Paul_H_Andrews_II)  
273 [https://en.wikipedia.org/wiki/User:Peter\\_Isotalo](https://en.wikipedia.org/wiki/User:Peter_Isotalo)  
274 [https://en.wikipedia.org/wiki/User:Philip\\_Cross](https://en.wikipedia.org/wiki/User:Philip_Cross)  
275 [https://en.wikipedia.org/wiki/User:Piano\\_non\\_troppo](https://en.wikipedia.org/wiki/User:Piano_non_troppo)  
276 <https://en.wikipedia.org/wiki/User:Pictureuploader>  
277 <https://en.wikipedia.org/wiki/User:Pisarz12345>  
278 [https://en.wikipedia.org/w/index.php?title=User:Pittsburgh\\_Poet&action=edit&redlink=1](https://en.wikipedia.org/w/index.php?title=User:Pittsburgh_Poet&action=edit&redlink=1)  
279 <https://en.wikipedia.org/wiki/User:Pollinosisss>  
280 <https://en.wikipedia.org/wiki/User:Porcher>  
281 <https://en.wikipedia.org/wiki/User:Potosino>  
282 <https://en.wikipedia.org/wiki/User:PrimeBOT>  
283 <https://en.wikipedia.org/wiki/User:Proteus>  
284 [https://en.wikipedia.org/wiki/User:Pseudo-Dionysius\\_the\\_areopagite](https://en.wikipedia.org/wiki/User:Pseudo-Dionysius_the_areopagite)  
285 <https://en.wikipedia.org/wiki/User:R.e.b.>  
286 <https://en.wikipedia.org/wiki/User:RacoonyRE>  
287 <https://en.wikipedia.org/wiki/User:RandomCritic>  
288 <https://en.wikipedia.org/wiki/User:RaphaelQS>  
289 <https://en.wikipedia.org/wiki/User:Rathfelder>  
290 <https://en.wikipedia.org/wiki/User:Rbellin>  
291 <https://en.wikipedia.org/wiki/User:RedBot>  
292 <https://en.wikipedia.org/wiki/User:Rfl>  
293 <https://en.wikipedia.org/wiki/User:RibotBOT>  
294 [https://en.wikipedia.org/wiki/User:Rich\\_Farmbrough](https://en.wikipedia.org/wiki/User:Rich_Farmbrough)  
295 [https://en.wikipedia.org/wiki/User:Richard\\_Arthur\\_Norton\\_\(1958-\\_\)](https://en.wikipedia.org/wiki/User:Richard_Arthur_Norton_(1958-_))  
296 <https://en.wikipedia.org/w/index.php?title=User:Robbe&action=edit&redlink=1>

- 
- 1 Robbot<sup>297</sup>
  - 1 RobotG<sup>298</sup>
  - 3 RodC<sup>299</sup>
  - 1 RogDel<sup>300</sup>
  - 1 Rubinbot<sup>301</sup>
  - 1 Ruud Koot<sup>302</sup>
  - 1 Ryangdotexe<sup>303</sup>
  - 1 S.T.Franklin<sup>304</sup>
  - 1 STBotD<sup>305</sup>
  - 1 Saga City<sup>306</sup>
  - 1 SashatoBot<sup>307</sup>
  - 1 Saturdayopen<sup>308</sup>
  - 1 Savidan<sup>309</sup>
  - 1 Scolaire<sup>310</sup>
  - 1 Sdoradus<sup>311</sup>
  - 1 Seedbot<sup>312</sup>
  - 2 Sethmahoney<sup>313</sup>
  - 3 Shawn eagles<sup>314</sup>
  - 2 SieBot<sup>315</sup>
  - 3 Sigehelmus<sup>316</sup>
  - 1 Silver seren<sup>317</sup>
  - 1 SilvonenBot<sup>318</sup>
  - 1 Simonides<sup>319</sup>
  - 1 Siryendor<sup>320</sup>
  - 1 SkonesMickLoud<sup>321</sup>

- 
- 297 <https://en.wikipedia.org/wiki/User:Robbot>
  - 298 <https://en.wikipedia.org/wiki/User:RobotG>
  - 299 <https://en.wikipedia.org/wiki/User:RodC>
  - 300 <https://en.wikipedia.org/wiki/User:RogDel>
  - 301 <https://en.wikipedia.org/wiki/User:Rubinbot>
  - 302 [https://en.wikipedia.org/wiki/User:Ruud\\_Koot](https://en.wikipedia.org/wiki/User:Ruud_Koot)
  - 303 <https://en.wikipedia.org/wiki/User:Ryangdotexe>
  - 304 <https://en.wikipedia.org/w/index.php?title=User:S.T.Franklin&action=edit&redlink=1>
  - 305 <https://en.wikipedia.org/wiki/User:STBotD>
  - 306 [https://en.wikipedia.org/wiki/User:Saga\\_City](https://en.wikipedia.org/wiki/User:Saga_City)
  - 307 <https://en.wikipedia.org/wiki/User:SashatoBot>
  - 308 <https://en.wikipedia.org/w/index.php?title=User:Saturdayopen&action=edit&redlink=1>
  - 309 <https://en.wikipedia.org/wiki/User:Savidan>
  - 310 <https://en.wikipedia.org/wiki/User:Scolaire>
  - 311 <https://en.wikipedia.org/w/index.php?title=User:Sdoradus&action=edit&redlink=1>
  - 312 <https://en.wikipedia.org/wiki/User:Seedbot>
  - 313 <https://en.wikipedia.org/wiki/User:Sethmahoney>
  - 314 [https://en.wikipedia.org/w/index.php?title=User:Shawn\\_eagles&action=edit&redlink=1](https://en.wikipedia.org/w/index.php?title=User:Shawn_eagles&action=edit&redlink=1)
  - 315 <https://en.wikipedia.org/wiki/User:SieBot>
  - 316 <https://en.wikipedia.org/wiki/User:Sigehelmus>
  - 317 [https://en.wikipedia.org/wiki/User:Silver\\_seren](https://en.wikipedia.org/wiki/User:Silver_seren)
  - 318 <https://en.wikipedia.org/wiki/User:SilvonenBot>
  - 319 <https://en.wikipedia.org/wiki/User:Simonides>
  - 320 <https://en.wikipedia.org/wiki/User:Siryendor>
  - 321 <https://en.wikipedia.org/wiki/User:SkonesMickLoud>

1 Skysmith<sup>322</sup>  
1 Solidusspriggen<sup>323</sup>  
2 SpiritTrak<sup>324</sup>  
1 Stilgar135<sup>325</sup>  
1 StjJackson<sup>326</sup>  
1 Str1977<sup>327</sup>  
1 SunDawn<sup>328</sup>  
1 Suriname0<sup>329</sup>  
11 Syncategoremata<sup>330</sup>  
1 TAnthony<sup>331</sup>  
1 Tassedethe<sup>332</sup>  
1 Technopat<sup>333</sup>  
2 Tesseract2<sup>334</sup>  
1 Theo Clark<sup>335</sup>  
7 Thruston<sup>336</sup>  
2 Tmrussell<sup>337</sup>  
1 Tommypelegrin<sup>338</sup>  
1 Trappist the monk<sup>339</sup>  
2 Trödel<sup>340</sup>  
1 Twas Now<sup>341</sup>  
1 Unyoyega<sup>342</sup>  
1 UpdateNerd<sup>343</sup>  
4 Utziputz<sup>344</sup>  
1 Uugedsaz<sup>345</sup>  
1 VIAFbot<sup>346</sup>

---

322 <https://en.wikipedia.org/wiki/User:Skysmith>  
323 <https://en.wikipedia.org/wiki/User:Solidusspriggen>  
324 <https://en.wikipedia.org/w/index.php?3ftitle=User:SpiritTrak&action=edit&redlink=1>  
325 <https://en.wikipedia.org/wiki/User:Stilgar135>  
326 <https://en.wikipedia.org/wiki/User:StjJackson>  
327 <https://en.wikipedia.org/wiki/User:Str1977>  
328 <https://en.wikipedia.org/wiki/User:SunDawn>  
329 <https://en.wikipedia.org/wiki/User:Suriname0>  
330 <https://en.wikipedia.org/wiki/User:Syncategoremata>  
331 <https://en.wikipedia.org/wiki/User:TAnthony>  
332 <https://en.wikipedia.org/wiki/User:Tassedethe>  
333 <https://en.wikipedia.org/wiki/User:Technopat>  
334 <https://en.wikipedia.org/wiki/User:Tesseract2>  
335 [https://en.wikipedia.org/wiki/User:Theo\\_Clark](https://en.wikipedia.org/wiki/User:Theo_Clark)  
336 <https://en.wikipedia.org/wiki/User:Thruston>  
337 <https://en.wikipedia.org/w/index.php?3ftitle=User:Tmrussell&action=edit&redlink=1>  
338 <https://en.wikipedia.org/wiki/User:Tommypelegrin>  
339 [https://en.wikipedia.org/w/index.php?3ftitle=User:Trappist\\_the\\_monk&action=edit&redlink=1](https://en.wikipedia.org/w/index.php?3ftitle=User:Trappist_the_monk&action=edit&redlink=1)  
340 <https://en.wikipedia.org/wiki/User:Tr%25C3%25B6del>  
341 [https://en.wikipedia.org/wiki/User:Twas\\_Now](https://en.wikipedia.org/wiki/User:Twas_Now)  
342 <https://en.wikipedia.org/wiki/User:Unyoyega>  
343 <https://en.wikipedia.org/wiki/User:UpdateNerd>  
344 <https://en.wikipedia.org/w/index.php?3ftitle=User:Utziputz&action=edit&redlink=1>  
345 <https://en.wikipedia.org/wiki/User:Uugedsaz>  
346 <https://en.wikipedia.org/wiki/User:VIAFbot>

- 1 Vanished user 5zariu3jisj0j4irj<sup>347</sup>
- 1 Veverve<sup>348</sup>
- 1 Vincej<sup>349</sup>
- 1 Walter Görlitz<sup>350</sup>
- 1 Wareh<sup>351</sup>
- 1 Welsh<sup>352</sup>
- 1 Wetman<sup>353</sup>
- 1 White whirlwind<sup>354</sup>
- 1 Whosyourjudas<sup>355</sup>
- 1 WhyIsNameSoHardOmg- -<sup>356</sup>
- 1 WikiCleanerBot<sup>357</sup>
- 2 WikipedianMarlith<sup>358</sup>
- 1 William Avery<sup>359</sup>
- 1 WilliamHamant<sup>360</sup>
- 1 Winner 42<sup>361</sup>
- 1 Woozle<sup>362</sup>
- 1 Wotnow<sup>363</sup>
- 1 Xact<sup>364</sup>
- 1 Xaviervd<sup>365</sup>
- 1 Yekwah<sup>366</sup>
- 1 Yobbo14<sup>367</sup>
- 6 Yobot<sup>368</sup>
- 1 YouRang?<sup>369</sup>
- 8 YurikBot<sup>370</sup>
- 1 Zorrobot<sup>371</sup>

- 
- 347 [https://en.wikipedia.org/wiki/User:Vanished\\_user\\_5zariu3jisj0j4irj](https://en.wikipedia.org/wiki/User:Vanished_user_5zariu3jisj0j4irj)
  - 348 <https://en.wikipedia.org/wiki/User:Veverve>
  - 349 <https://en.wikipedia.org/wiki/User:Vincej>
  - 350 [https://en.wikipedia.org/wiki/User:Walter\\_G%25C3%25B6rlitz](https://en.wikipedia.org/wiki/User:Walter_G%25C3%25B6rlitz)
  - 351 <https://en.wikipedia.org/wiki/User:Wareh>
  - 352 <https://en.wikipedia.org/wiki/User:Welsh>
  - 353 <https://en.wikipedia.org/wiki/User:Wetman>
  - 354 [https://en.wikipedia.org/wiki/User:White\\_whirlwind](https://en.wikipedia.org/wiki/User:White_whirlwind)
  - 355 <https://en.wikipedia.org/wiki/User:Whosyourjudas>
  - 356 <https://en.wikipedia.org/wiki/User:WhyIsNameSoHardOmg- ->
  - 357 <https://en.wikipedia.org/wiki/User:WikiCleanerBot>
  - 358 <https://en.wikipedia.org/wiki/User:WikipedianMarlith>
  - 359 [https://en.wikipedia.org/wiki/User:William\\_Avery](https://en.wikipedia.org/wiki/User:William_Avery)
  - 360 <https://en.wikipedia.org/w/index.php?title=User:WilliamHamant&action=edit&redlink=1>
  - 361 [https://en.wikipedia.org/wiki/User:Winner\\_42](https://en.wikipedia.org/wiki/User:Winner_42)
  - 362 <https://en.wikipedia.org/wiki/User:Woozle>
  - 363 <https://en.wikipedia.org/wiki/User:Wotnow>
  - 364 <https://en.wikipedia.org/wiki/User:Xact>
  - 365 <https://en.wikipedia.org/wiki/User:Xaviervd>
  - 366 <https://en.wikipedia.org/wiki/User:Yekwah>
  - 367 <https://en.wikipedia.org/wiki/User:Yobbo14>
  - 368 <https://en.wikipedia.org/wiki/User:Yobot>
  - 369 <https://en.wikipedia.org/w/index.php?title=User:YouRang%253F&action=edit&redlink=1>
  - 370 <https://en.wikipedia.org/wiki/User:YurikBot>
  - 371 <https://en.wikipedia.org/wiki/User:Zorrobot>

- 1 Zundark<sup>372</sup>
- 1 Zwobot<sup>373</sup>
- 1 ZéroBot<sup>374</sup>
- 4 Éleuthérode<sup>375</sup>
- 1  $\Delta$ <sup>376</sup>

---

372 <https://en.wikipedia.org/wiki/User:Zundark>

373 <https://en.wikipedia.org/wiki/User:Zwobot>

374 <https://en.wikipedia.org/wiki/User:Z%C3%A9roBot>

375 <https://en.wikipedia.org/w/index.php?title=User:%C3%2589leuth%C3%25A9rode&action=edit&redlink=1>

376 <https://en.wikipedia.org/wiki/User:%25CE%2594>

# List of Figures

- GFDL: Gnu Free Documentation License. <http://www.gnu.org/licenses/fdl.html>
- cc-by-sa-3.0: Creative Commons Attribution ShareAlike 3.0 License. <http://creativecommons.org/licenses/by-sa/3.0/>
- cc-by-sa-2.5: Creative Commons Attribution ShareAlike 2.5 License. <http://creativecommons.org/licenses/by-sa/2.5/>
- cc-by-sa-2.0: Creative Commons Attribution ShareAlike 2.0 License. <http://creativecommons.org/licenses/by-sa/2.0/>
- cc-by-sa-1.0: Creative Commons Attribution ShareAlike 1.0 License. <http://creativecommons.org/licenses/by-sa/1.0>
- cc-by-2.0: Creative Commons Attribution 2.0 License. <http://creativecommons.org/licenses/by/2.0/>
- cc-by-2.0: Creative Commons Attribution 2.0 License. <http://creativecommons.org/licenses/by/2.0/deed.en>
- cc-by-2.5: Creative Commons Attribution 2.5 License. <http://creativecommons.org/licenses/by/2.5/deed.en>
- cc-by-3.0: Creative Commons Attribution 3.0 License. <http://creativecommons.org/licenses/by/3.0/deed.en>
- GPL: GNU General Public License. <http://www.gnu.org/licenses/gpl-2.0.txt>
- LGPL: GNU Lesser General Public License. <http://www.gnu.org/licenses/lgpl.html>
- PD: This image is in the public domain.
- ATTR: The copyright holder of this file allows anyone to use it for any purpose, provided that the copyright holder is properly attributed. Redistribution, derivative work, commercial use, and all other use is permitted.
- EURO: This is the common (reverse) face of a euro coin. The copyright on the design of the common face of the euro coins belongs to the European Commission. Authorised is reproduction in a format without relief (drawings, paintings, films) provided they are not detrimental to the image of the euro.
- LFK: Lizenz Freie Kunst. <http://artlibre.org/licence/lal/de>
- CFR: Copyright free use.

- EPL: Eclipse Public License. <http://www.eclipse.org/org/documents/epl-v10.php>

Copies of the GPL, the LGPL as well as a GFDL are included in chapter Licenses<sup>377</sup>. Please note that images in the public domain do not require attribution. You may click on the image numbers in the following table to open the webpage of the images in your webbrowser.

---

<sup>377</sup> Chapter 3 on page 53

1	Cronholm144 <sup>378</sup> created this image using a file by Hautala <sup>379</sup> - Emblem of Vatican City State.svg <sup>380</sup> , who had created his file using PD art from Open Clip Art Library <sup>381</sup> and uploaded on 13 July 2006. uploaded this version on 19 January 2007., Cronholm144 <sup>382</sup> created this image using a file by Hautala <sup>383</sup> - Emblem of Vatican City State.svg <sup>384</sup> , who had created his file using PD art from Open Clip Art Library <sup>385</sup> and uploaded on 13 July 2006. uploaded this version on 19 January 2007.	
2	MarkusMark <sup>386</sup> , MarkusMark <sup>387</sup>	
3	The original uploader was Magnus Manske <sup>388</sup> at English Wikipedia <sup>389</sup> . Later versions were uploaded by Optimager <sup>390</sup> at en.wikipedia <sup>391</sup> .	
4	Ockham	
5	Guillelmus : de Occam	

378 <http://commons.wikimedia.org/wiki/User:Cronholm144>

379 <http://commons.wikimedia.org/wiki/User:Hautala>

380 [http://commons.wikimedia.org/wiki/File:Emblem\\_of\\_Vatican\\_City\\_State.svg](http://commons.wikimedia.org/wiki/File:Emblem_of_Vatican_City_State.svg)

381 [http://commons.wikimedia.org/wiki/Open\\_Clip\\_Art\\_Library](http://commons.wikimedia.org/wiki/Open_Clip_Art_Library)

382 <https://commons.wikimedia.org/wiki/User:Cronholm144>

383 <https://commons.wikimedia.org/wiki/User:Hautala>

384 [https://commons.wikimedia.org/wiki/File:Emblem\\_of\\_Vatican\\_City\\_State.svg](https://commons.wikimedia.org/wiki/File:Emblem_of_Vatican_City_State.svg)

385 [https://commons.wikimedia.org/wiki/Open\\_Clip\\_Art\\_Library](https://commons.wikimedia.org/wiki/Open_Clip_Art_Library)

386 <http://commons.wikimedia.org/w/index.php?title=User:MarkusMark&action=edit&redlink=1>

387 <https://commons.wikimedia.org/w/index.php?title=User:MarkusMark&action=edit&redlink=1>

388 [https://en.wikipedia.org/wiki/User:Magnus\\_Manske](https://en.wikipedia.org/wiki/User:Magnus_Manske)

389 <https://en.wikipedia.org/wiki/>

390 <https://en.wikipedia.org/wiki/User:Optimager>

391 <https://en.wikipedia.org>



# 3 Licenses

## 3.1 GNU GENERAL PUBLIC LICENSE

Version 3, 29 June 2007

Copyright © 2007 Free Software Foundation, Inc. <<http://fsf.org/>>

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed. Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program—to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow. TERMS AND CONDITIONS S. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrighted work licensed under this License. Each licensee is addressed as "you". "Licenses" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (of or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu or prominent item in the list menu, this criterion. 1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable the use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work. 2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not conve, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary. 3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 12 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intent to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures. 4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee. 5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

\* a) The work must carry prominent notices stating that you modified it, and giving a relevant date. \* b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices". \* c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they were packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it. \* d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, or in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate. 6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

\* a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange. \* b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveyance of source, or (2) access to copy the Corresponding Source from a network server at no charge. \* c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b. \* d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the object code is a network server, the Corresponding Source may be on a

different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements. \* e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a Use Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying. 7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

\* a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or \* b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or \* c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or \* d) Limiting the use for publicity purposes of names of licensors or authors of the material; or \* e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or \* f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, then add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way. 8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates

your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the rights of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10. 9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so. 10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this license. You are not responsible for enforcing compliance by third parties with this license.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it. 11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version. It do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the recipients of the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work to you, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law. 12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, if you cannot excuse yourself from the conditions of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates

both those terms and this License would be to refrain entirely from conveying the Program. 13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such. 14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

## 3.2 GNU Free Documentation License

Version 1.3, 3 November 2008

Copyright © 2000, 2001, 2002, 2007, 2008 Free Software Foundation, Inc. <http://fsf.org/>

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed. 0. PREAMBLE

The purpose of this License is to make a manual, textbook, or other functional and useful document "free" in the sense of freedom: to assure everyone the effective freedom to copy and redistribute it, with or without modifying it, either commercially or noncommercially. Secondly, this License preserves for the author and publisher a way to get credit for their work, while not being considered responsible for modifications made by others.

This License is a kind of "copyleft", which means that derivative works of the document must themselves be free in the same sense. It complements the GNU General Public License, which is a copyleft license designed for free software.

We have designed this License in order to use it for manuals for free software, because free software needs documentation: a free program should come with manuals providing the same freedoms that the software does. But this License is not limited to software manuals; it can be used for any textual work, regardless of subject matter or whether it is published as a printed book. We recommend this License principally for works whose purpose is instruction or reference.

### 1. APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that contains a notice placed by the copyright holder saying it can be distributed under the terms of this License. Such a notice grants a world-wide, royalty-free license, unlimited in duration, to use that work under the conditions stated herein. The "Document", below, refers to any such manual or work. Any member of the public is a licensee, and is addressed as "you". You accept the license if you copy, modify, or redistribute the work in a way requiring permission under copyright law.

A "Modified Version" of the Document means any work containing the Document or a portion of it, either copied verbatim, or with modifications and/or translated into another language.

A "Secondary Section" is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The "Invariant Sections" are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The "Cover Texts" are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A "Transparent" copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format that is not Transparent if used for any substantial amount of text. A copy that is not "Transparent" is called "Opaque".

Examples of suitable formats for Transparent copies include plain ASCII without markup, Texinfo input format, L<sup>A</sup>T<sub>E</sub>X input format, SGML or XML using a publicly available DTD, and standard-conforming simple HTML, PostScript or PDF designed for human modification. Examples of transparent image formats include PNG, XCF and JPG. Opaque formats include proprietary formats that can be read and edited only by proprietary word processors, SGML or XML for which the DTD and/or processing tools are not generally available, and the machine-generated HTML, PostScript or PDF produced by some word processors for output purposes only.

The "Title Page" means, for a printed book, the title page itself, plus such following pages as are needed to hold, legibly, the material this License requires to appear in the title page. For works in formats which do not have any title page as such, "Title Page" means the text near the most prominent appearance of the work's title, preceding the beginning of the body of the text.

The "publisher" means any person or entity that distributes copies of the Document to the public.

A section "Entitled XYZ" means a named subunit of the Document whose title either is precisely XYZ or contains XYZ in parentheses

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version. 15. Disclaimer of Warranty.

**THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.** EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION. 16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. 17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

**END OF TERMS AND CONDITIONS How to Apply These Terms to Your New Programs**

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>

Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author> This program comes with ABSOLUTELY NO WARRANTY; for details type 'show w'. This is free software, and you are welcome to redistribute it under certain conditions; type 'show c' for details.

The hypothetical commands 'show w' and 'show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary. For more information on this, and how to apply and follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <http://www.gnu.org/philosophy/why-not-lGPL.html>.

(section 1) will typically require changing the actual title. 9. TERMINATION

You may not copy, modify, sublicense, or distribute the Document except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, or distribute it is void, and will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, receipt of a copy of some or all of the same material does not give you any rights to use it. 10. FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions of the GNU Free Documentation License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. See <http://www.gnu.org/copyleft/>.

Each version of the License is given a distinguishing version number. If the Document specifies that a particular numbered version of this License "or any later version" applies to it, you have the option of following the terms and conditions either of that specified version or of any later version that has been published (not as a draft) by the Free Software Foundation. If the Document does not specify a version number of this License, you may choose any version ever published (not as a draft) by the Free Software Foundation. If the Document specifies that a proxy can decide which future versions of this License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Document.

### 11. RELICENSING

"Massive Multiauthor Collaboration Site" (or "MMC Site") means any World Wide Web server that publishes copyrighted works and also provides prominent facilities for anybody to edit those works. A public wiki that anybody can edit is an example of such a server. A "Massive Multiauthor Collaboration" (or "MMC") contained in the site means any set of copyrighted works thus published on the MMC site.

"CC-BY-SA" means the Creative Commons Attribution-Share Alike 3.0 license published by Creative Commons Corporation, a not-for-profit corporation with a principal place of business in San Francisco, California, as well as future copyleft versions of that license published by that same organization.

"Incorporate" means to publish or republish a Document, in whole or in part, as part of another Document.

An MMC is "eligible for relicensing" if it is licensed under this License and if all works that were first published under this License somewhere other than that MMC, and subsequently incorporated in whole or in part into the MMC, (1) had no cover texts or invariant sections, and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site under CC-BY-SA on the same site at any time before August 1, 2009, provided the MMC is eligible for relicensing. ADDENDUM: How to use this License for your documents

To use this License in a document you have written, include a copy of the License in the document and put the following copyright and license notices just after the title page:

Copyright (C) YEAR YOUR NAME. Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.3 or any later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts. A copy of the license is included in the section entitled "GNU Free Documentation License".

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts, replace the "with... Texts." line with this:

with the Invariant Sections being LIST THEIR TITLES, with the Front-Cover Texts being LIST, and with the Back-Cover Texts being LIST.

If you have Invariant Sections without Cover Texts, or some other combination of the three, merge those two alternatives to suit the situation.

If your document contains nontrivial examples of program code, we recommend releasing these examples in parallel under your choice of free software license, such as the GNU General Public License, to permit their use in free software.

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original version of these Invariant Sections. You may include a translation of this License, and all the license notices in the Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions of those notices and disclaimers. In case of a disagreement between the translation and the original version of this License or a notice or disclaimer, the original version will prevail.

If a section in the Document is Entitled "Acknowledgements", "Dedications", or "History", Preserve the Title of the section, and preserve in the section all the substance and tone of each of the contributor acknowledgements and/or dedications given therein. \* L. Preserve all the Invariant Sections of the Document, unaltered in their text and

### 3.3 GNU Lesser General Public License

GNU LESSER GENERAL PUBLIC LICENSE

Version 3, 29 June 2007

Copyright © 2007 Free Software Foundation, Inc. <<http://fsf.org/>>

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

This version of the GNU Lesser General Public License incorporates the terms and conditions of version 3 of the GNU General Public License, supplemented by the additional permissions listed below. 0. Additional Definitions:

As used herein, "this License" refers to version 3 of the GNU Lesser General Public License, and the "GNU GPL" refers to version 3 of the GNU General Public License.

"The Library" refers to a covered work governed by this License, either than an Application or a Combined Work as defined below.

An "Application" is any work that makes use of an interface provided by the Library, but which is not otherwise based on the Library. Defining a subclass of a class defined by the Library is deemed a mode of using an interface provided by the Library.

A "Combined Work" is a work produced by combining or linking an Application with the Library. The particular version of the Library with which the Combined Work was made is also called the "Linked Version".

The "Minimal Corresponding Source" for a Combined Work means the Corresponding Source for the Combined Work, excluding any source code for portions of the Combined Work that, considered in isolation, are based on the Application, and not on the Linked Version.

The "Corresponding Application Code" for a Combined Work means the object code and/or source code for the Application, including any data and utility programs needed for reproducing the Combined Work from the Application, but excluding the System Libraries of the Combined Work. 1. Exception to Section 3 of the GNU GPL.

You may convey a covered work under sections 3 and 4 of this License without being bound by section 3 of the GNU GPL. 2. Conveying Modified Versions.

If you modify a copy of the Library, and, in your modifications, a facility refers to a function or data to be supplied by an Application that uses the facility (other than as an argument passed when the facility is invoked), then you may convey a copy of the modified version:

\* a) under this License, provided that you make a good faith effort to ensure that, in the event an Application does not supply the function or data, the facility still operates, and performs whatever part of its purpose remains meaningful, or \* b) under the GNU GPL, with none of the additional permissions of this License applicable to that copy.

#### 3. Object Code Incorporating Material from Library Header Files.

The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated material is not limited to numerical parameters, data structure layouts and accessors, or small macros, inline functions and templates (ten or fewer lines in length), you do both of the following:

\* a) Give prominent notice with each copy of the object code that the Library is used in it and that the Library and its use are covered by this License. \* b) Accompany the object code with a copy of the GNU GPL and this license document.

#### 4. Combined Works.

You may convey a Combined Work under terms of your choice that, taken together, effectively do not restrict modification of the portions of the Library contained in the Combined Work and reverse engineering for debugging such modifications, if you also do each of the following:

\* a) Give prominent notice with each copy of the Combined Work that the Library is used in it and that the Library and its use are covered by this License. \* b) Accompany the Combined Work with a copy of the GNU GPL and this license document. \* c) For a Combined Work that displays copyright notices during execution, include the copyright notice for the Library among these notices, as well as a reference directing the user to the copies of the GNU GPL and this license document. \* d) Do one of the following: o 0) Convey the Minimal Corresponding Source under the terms of this License, and the Corresponding Application Code in a form suitable for, and under terms that permit, the user to recombine or relink the Application with a modified version of the Linked Version to produce a modified Combined Work, in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source. o 1) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (a) uses at run time a copy of the Library already present on the user's computer system, and (b) will operate properly with a modified version of the Library that is interface-compatible with the Linked Version. \* e) Provide Installation Information, but only if you would otherwise be required to provide such information under section 6 of the GNU GPL, and only to the extent that such information is necessary to install and execute a modified version of the Combined Work produced by recombining or relinking the Application with a modified version of the Linked Version. (If you use option 4d, the Installation Information must accompany the Minimal Corresponding Source and Corresponding Application Code. If you use option 4d, you must provide the Installation Information in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.)

#### 5. Combined Libraries.

You may place library facilities that are a work based on the Library side by side in a single library together with other library facilities that are not Applications and are not covered by this License, and convey such a combined library under terms of your choice, if you do both of the following:

\* a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities, conveyed under the terms of this License. \* b) Give prominent notice with the combined library that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

#### 6. Revised Versions of the GNU Lesser General Public License.

The Free Software Foundation may publish revised and/or new versions of the GNU Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library as you received it specifies that a certain numbered version of the GNU Lesser General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that published version or of any later version published by the Free Software Foundation. If the Library as you received it does not specify a version number of the GNU Lesser General Public License, you may choose any version of the GNU Lesser General Public License ever published by the Free Software Foundation.

If the Library as you received it specifies that a proxy can decide whether future versions of the GNU Lesser General Public License shall apply, that proxy's public statement of acceptance of any version is permanent authorization for you to choose that version for the Library.