Science, Innovation, Engineering and Technology and Catholic Social Teaching

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Pope Leo XII and *Rerum Novarum*
The Steam Engine: Thomas Newcomen and James Watt
The Steam Engine Enabled Worldwide Food Production

Source: Cato Institute, *Greatest Century that ever was: 25 Miraculous Trends of the Past 100 Years*
Invention of Steam Engine
World Population over Time

The Cultural and SocioEconomic Changes that led to *Rerum Novarum*

1. Dramatic increase in food production and concomitant increase in population
2. End of feudalism and the social order of agrarian economies
3. The Social Contract of the late 18\textsuperscript{th} century and the rise of the “rights of men”
4. Individualism, perhaps to the exclusion of the common good
“Through the dissolution of all the old associations, the worker is isolated and left to rely on himself. This is an alienating isolation because it is both a natural law and constitutional principle of the human being to cooperate with his fellow man to promote the common good.”

What are some of the other remarkable innovations of the 20th century?
“Miraculous” Trends in Health

Source: Cato Institute, Greatest Century that ever was: 25 Miraculous Trends of the Past 100 Years
Source: National Center for Health Statistics: *National Vital Statistics Report*
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Productivity and Economic Gains attributable to Technology

Source: Cato Institute, *Greatest Century that ever was: 25 Miraculous Trends of the Past 100 Years*
Our inventions have dramatically transformed society

Source: Cato Institute, *Greatest Century that ever was: 25 Miraculous Trends of the Past 100 Years*
What good must we be about in the 21st century?

Pope Benedict XVI and *Caritas in Veritate*
Documents cited by *Caritas in Veritate*

- John Paul II
- *Centesimus Annus*
- *Sollicitudo Rei Socialis*
- *Evangelium Vitae*
- *Populorum Progressio*
- *Pacem in Terris*
- *Veritatis Splendor*
Important Themes in *Caritas in Veritate*

1. *Life ethics* must be at the core of *social ethics*
2. Need for new humanistic synthesis of integral human development not based solely on profit; B or “benefit” corporations and other models of business and technology
3. We must find ways of building *generosity*, or the *principle of gratuitousness* into our economy, our polity, our society, and our expressions of technological innovation
Important Themes in *Caritas in Veritate* (con’t)

④ Our program for *worldwide integral human development* must be grounded on (i) respect for life and human dignity, (ii) a sensitivity to and affirmation of community-based cultural processes and (iii) an openness to transcendence.

⑤ Human rights must be closely connected to our *duties to the common good*. These include our duties in the areas of environmental, energy, and participatory justice.
We must be cautious not to embrace too closely merely human projects, ideologies and false utopias. This is true as well in the fields of science and technology.

Technology and innovation is profoundly human, but it must be intimately linked to the good of the other and to the inherent dignity of all human persons.
Pope Francis and *Evangelii Gaudium*
Important Themes in *Evangelii Gaudium*

① We must work to ensure the inclusion of the poor in society, above all through their employment, because it is through “mutually supportive labor that human beings express and enhance the dignity of their lives.”

② We must work to establish peace in the world and work for the common good, primarily through social dialogue.
The Four Pillars of Catholic Social Doctrine Invoked by Pope Francis

① Time is greater than space; be patient
② Unity prevails over conflict
③ Realities are more important than ideas
④ The whole is greater than the part
Concluding Remarks

1. Technology and its applications will grow increasingly powerful

2. We must be attentive to drawing clear lines between what we can and what we must not do in applying technology

3. Our society and culture needs more discussion and debate about what can and should be done and why

4. Too many in our society believe the maxim *Verum quia faciendum* (Truth is what can be made) rather than *Verum est ens* (Being is truth); this leads to society’s belief that technology can create a future of our own choosing