Religion-Science Amalgam (Reliscience)

David Scienceman and Dennis Collins

ABSTRACT

David Scienceman suggests treating religion and science as a whole, based on religion as beginning guesswork and science as hard follow-up work. Scienceman presents Energy Systems Language diagrams for Egyptian and Christian religions. Egyptian gods correspond to early attempts to sort out ecological influences, such as sun, sky and earth. There is also the question of Sumerian influence, to the extent that Sumerian culture influenced pre-dynastic or early Egyptian culture, perhaps through travel from the Tigris-Euphrates valley around the southern coast of Arabia, partly up the Red Sea and overland to the upper (Southern) Nile. Survival of the fittest selects systems of gods, or lack thereof, and favors those with the best picture of ecological reality. Direct feedback loops to solve problems can compete with indirect attempts to win favor of the gods by building temples and so forth. However some rituals may prove helpful. For example sacrifice of animals may prevent over-grazing. Human sacrifice and/or war can prevent overpopulation, although according to Newton, the pharaoh Ahmose (a possible model of Moses) ended human sacrifice in Egypt. Psychological support of religious belief as “emergy” reservoirs or tanks can cause people to persevere through adverse conditions. Collins points out Odum diagrams can be looked at from a “trinitarian” viewpoint with 1) CIRCLES representing energy coming from outside the diagram box corresponding to the Father, 2) BULLET SHAPES representing processing components that require the sacrifice of one energy type (such as burning coal or harvesting grain) to make another of higher transformity corresponding to the Son, and 3) POLYGONS and INTERSECTION SYMBOLS representing growth by feedback corresponding to the Spirit.

INTRODUCTION

Much effort is expended/wasted on the conflict between science and religion. One way to cut down on this struggle is to view religion-to-science as a continuum, with religion providing initial guesses and science gradually checking-out claims and doing hard follow-up work. Religion comes in, wanted or not, as what people put their trust in; it is the “glue” that holds their lives together. What is new is to treat religion as guesses rather than an absolute. For an example (Ex.1) of science refining religion, Isaiah 55:10 says, “For as the rain and the snow come down from heaven and do not return there but water the earth, making it bring forth and sprout . . . ,” corresponding to a guess, incidentally partly wrong because the water does return to heaven through evaporation. The hard work of science elaborates the water cycle, involving respiration and evaporation into clouds by solar energy and return of water to the heavens. As another example (Ex. 2), the Bible guesses the ratio of the circumference to the diameter of a circle as 3 (1 Kings 7:23 or 2 Chronicles 4:2), whereas the Greeks elaborated the number to $\pi=3.14159$ . . . , which could have an effect in making chariot wheels, as a metal rim wouldn't reach all the way around if it were 3 times the diameter (cf. Psalms 20:7).

This change of viewpoint would see both clerics and scientists as working toward a common goal of seeking truth and well-being. It seems a civilization with this cooperative outlook would outperform one in which there is a constant strife between religion and science. Figure 1 expresses this idea as an
Figure 1. Systems diagram of religion and science.

idea as an Energy Systems Language diagram. Key words are trust and reproducibility of results. As stated in the ABSTRACT, this diagram also has a Trinitarian interpretation and more general Odum diagrams can frequently be divided this way.

Other threefold views are possible, besides the one stated in the Abstract.

In fact, if we consider gods as uncontrollable outside influences, the three major outside energy sources of 1) deep heat, 2) solar, and 3) gravity (tides) and the fact that they were apparently given equal status as drivers of the Earth system, but not equal weighting in terms of their relative effects (Odum 1996) can be viewed from a threefold perspective. Recent work by Brown and Brandt-Williams (2011) seems too calculate values of 1) Deep Earth Heat (8.06), 2) Solar (3.93) and 3) Tidal gravity (3.84), all in units of E24 sej/yr. These values would correspond to 1) volcano god (Father), 2) sun (Son) and 3) Spirit. These values would correspond to somewhat impersonal gods. A Personal God, as might be involved with the inside of the Odum diagrams as suggested in the Abstract, could have much higher emergy values. Should recent atmospheric theories of earthquake (deep heat) prediction (Dunajecka and Pulinets, 2005) prove out, it could have an effect on the status of the volcano god, just as Mesopotamian prediction of solar eclipses no doubt affected their acceptance of the Egyptian sun god. Any ability to predict the god lessens its power.

The work of Sancho (2011) on the metallic (deep heat) versus green (solar) evolution is also relevant, as he points out evolution could be heading for metallic-based creatures, such as golden robots or metal drones, which could supplant green (sun-based) organisms. Collins (2004) paper on the Neo-Gorgon religion may also be mentioned.

The theory of quarks is also a threefold view of the universe, in the sense that the main constituents of matter, protons and neutrons (fermionic hadrons or baryons) or anti-baryons are made up of three quarks (Burle, http://CPEPweb.org).

To some extent Scienman’s view of religion-science as a continuum, as supported by Collins, is a historical fact. Early knowledge was organized around temples dedicated to various gods. Gradually some processes were separated out as reproducible without trusting to the gods, although still considered as the handiwork of the gods. Ancients had a family of gods whose temples, in many respects, resembled the various departments of a university today. If you wished to succeed at x, you went to the temple that dealt with x, and sought advice, just as you would go to department x, or look-up something in the phone book, today. Temples giving bad advice would have their gods brought into disfavor. With the disappearance of the herds due to overhunting or climate change, the hunting gods would fade into the background, to be replaced by newer gods. Villages that survived by agriculture would have their own local gods, coding the information of how to keep the system going. Frequently the system of gods developed like the game rock/scissors/paper, whereby an attempt to set up one god as absolute, would lead to vulnerability of another god. As Ex.3, the power
of the sun god would have to be tempered by some other god to explain how the sun could go from the West through the watery underworld back to the East (say by boat) every day without being extinguished by the water. Science resolves this problem now by viewing the earth itself as rotating.

Looking ahead to Scienteman's section on the Atum and the Enead and Figure 3. on the Osiris story, another resolution of the sun disappearance problem is to say another god Seth destroys the sun (Osiris) daily at sunset and another god(dess) Isis (related to the moon) puts it back together by morning.

A second battle of Osiris with Seth occurs on an annual basis as the sun rises lower in the sky as winter approaches. What if it keeps going and disappears (i.e. a second "sun scare" apart from the fear that the sun may not come up in the morning). Apparently the sun stays in the same position for three days and then starts rising in the sky again after Dec. 25 (i.e. is "resurrected"). Science now explains this process by the tilt of the earth and its orbit around the sun. This process is at a larger scale (one year versus one day) and transformity and thus appears to the right on Scienteman's diagram (Figure 3.) Since the larger scale involves the seasons, the Spring re-birth is brought in with the birth of Horus. The Osiris story gives some handle on what has to be remembered and accounted for.

Thus another consideration is that to be preserved, religion or its scientific elaboration has to be remembered, which means that mnemonic devices, such as the method of loci, which memory experts recommend to recall material, are frequently employed. In the loci procedure events are recalled by associating them with vivid pictures as a well-known path is traversed. For example, the progression of the seasons is associated with memorable signs (such as animals) of the Zodiac, which can in turn be linked to agricultural tasks, such as planting. Such icons, as appear on almost every computer screen now, have vastly improved the use of the computer, even though they may conflict with scientific development. H.T. Odum used icons to help in teaching ecology. Again the view of this paper prevents the icons being seen as religious absolutes, in spite of their fantastic mental impressions, for example the Egyptian god Thoth as a man with the head of an ibis (bird). Apparently in pre-dynastic upper Egypt, men had problems surviving the many serpents (winged or otherwise). The fact that the ibis birds could kill the snakes, and thereby protect people could be memorialized in this god image and the ibis birds protected from extermination, which indirectly helped preserve the society. A contrast with the Thoth/ibis icon in Egypt is presented by the fate of the passenger pigeon in the United States, driven to extinction by 1914. Curiously, Nicola Tesla, perhaps most responsible for current technology, seems to have had some kind of religious connection with pigeons, and got some of his inventions in religious mental-type images. Perhaps, except for him, all pigeons would now be extinct, along with inventors. Although guess work does not have to have a religious aspect; to be memorable and direct further research guesses frequently have the iconic imprint. Kekule's work (Wikipedia article on benzene ring) on the benzene ring in chemistry was elaborated (Ex. 4) by a day-dream of a serpent swallowing its tail (Ouroboros icon) or possibly figures (monkeys) dancing in a circle.

METHODS

Because of even less-than-usual opportunity to consult with Dr. Scienteman in Australia, the presenting author Collins is including Scienteman's writing as supplied by Scienteman mostly verbatim in the next section and his (Collins') comments in another couple sections on the pulsing and transformity of the gods. Separate reference lists are included. Also Collins states he may change his opinion on these matters upon further information or reflection.

SCIENCEMAN'S DIAGRAMS

Recent books and magazines worldwide frequently refer to “RELIGION” and “SCIENCE.” But the moment the two words, RELIGION and SCIENCE are used, people assume psychologically that the two words refer to different and opposed phenomena. This article however sees RELIGION and SCIENCE as different parts of the entire system of intellectual activities, RELISCIENCE, in contrast
to physical activities, uniting RELIGION (guess work) and SCIENCE (hard work), but separated by their solar transformities and their feedbacks. Diagrams and coefficients are introduced for the system RELISCIENCE (Figure 1), the basic ancient Egyptian system of gods (Figure 2), the story of Osiris (Figure 3), the typical sexual lifestyle (Figure 4) versus the basic story of Christianity (Figure 5), which can be considered as a scientific Christmas card. The story of Jesus can be developed from Akhenaton and Moses (Figure 6). [It appears female goddesses had primacy before the science of insemination was understood by early hunters, as women were thought to own their children (added by Collins)].

We now start to quote “The World’s Religions”: (Page 199)

Ancient Egypt
   When referring to THE BOOK OF GOING FORTH BY DAY,
   “It was a book to be placed with the dead at their entombment, to help them in their passing through judgment to the afterlife. The mythic scene which underlay the process was the life, death, and resurrection of the god Osiris. Next to Ra the great Sun God, who often combined with city deities in the form Amon Re and so on, Osiris was undoubtedly the most important deity in the Egyptian tradition. . .. The living Pharaoh was identified with Osiris’ son Horus, as ‘the living Horus,’ and the dead Pharaoh was identified with Osiris himself.”

Figure 2. Ancient Egyptian Theology diagram.

Figure 3. Story of Osiris diagram.
“The influential legend of Osiris, which in some ways prepared the ancient World for the Christian world, was as follows”:

**Osiris Story**

Quotation from *A Chaos of Delight*, 2005 by G.P. Dobson, p.67:

**Atum and the Ennead**

A number of Old Kingdom Pyramid texts identify Atum as the sun god. He was the supreme creator on the primeval hillock, who spat out, coughed up or ejected the first two creator gods, Shu (god of air or dryness) and Tefnut (goddess of moisture or humidity). Please see Figure 2.

From the union of Shu (dry air) and Tefnut (moisture), a second divine couple was created, the sky goddess Nut (a woman) and the earth god Geb (a man), who had four children: Isis and Osiris, Seth and Nephthys. It was Shu who separated heaven (Nut) from earth (Geb). Collectively, the Ennead represented four generations as follows (Figure 3.):

- **Atum** (or **Re**) (creator god)
- **Shu** (air god) -- **Tefnut** (moisture god)
- **Geb** (earth god) -- **Nut** (heaven god)
- Osiris, Isis, Seth, Nephthys

**SOURCE FLOWS**

K1= Atum or Re (creator god)  (Please see Figure 4.)
K2= God creates Seth
K3= God creates Osiris
K4 = God creates Isis
K5= Osiris opposes Seth
By K6= Seth fights Osiris
K7= Isis removes pieces of Osiris from coffin
K8= Isis reassembles Osiris
K9= Seth fights Osiris again
K10= Seth cuts up Osiris
K11= Isis collects pieces of Osiris
K12= Isis and Osiris combine sexually
K13= Birth of Horus
K14= Death of Seth
K15= Horus (living Pharaoh)
K16= Death of Pharaoh (Dead Pharaoh)

C= Coffin
R= Resurrection

**Ikhnaton and Monotheism**

Freud (1939, pp.72-73) wrote about the Pharaoh Ikhnaton: “He raised the Aton religion to the official religion and thereby the universal God became the ONLY God; all that was said of other gods was deceit and guile. With a superb implacability he resisted all the temptations of magical thought and discarded the illusion, dear particularly to the Egyptians, of a life after death. With an astonishing premonition of later scientific knowledge he recognized in energy of the sun’s radiation the source of all life on earth and worshipped the sun as the symbol of his God’s power. He glorified in his joy in the Creation and in his life in Maat (truth and justice). . . . It is the first case in the history of mankind, and perhaps the purist, of monolithic religion. A deeper knowledge of the historical and psychological conditions of its origin would be of inestimable value.”

**Jesus Story**

One day near Christmas 2010, I (Scienceman) was given a tin of BISQUITS by Ms. Madeleine Menassee, a coordinator of the Anglican Retirement Village, Castle Hill. NSW, AUSTRALIA.
Subsequently, I decided the message on the tin represented EXACTLY the point of view of the operators of the village, and was quite sufficient for me to draw an introductory diagram of the BASIC CHRISTIANITY STORY. Here is the inscription on the tin:

ARV CHRISTMAS TIN 2006  
“God with us”  
“Behold a virgin shall be with child, and shall bring forth a son, and they shall call his name Emmanuel, which being interpreted is, God with us (Matthew 1:23)

JESUS IS * FRIEND * REFUGE * SERVANT * PROPHET * ROCK * LIGHT OF THE WORLD * LIVING WATER * REDEEMER * MASTER * WORD MADE FLESH

The birth of Jesus was different from every other birth: He was conceived by the Holy Spirit and born with a sinless nature. He is “God with us” and He is also human like us and entering into our everyday life and experience. What a wonderful Savior.

Here is my diagram (Figure 5) starting with the diagram (Figure 4) of ordinary human reproduction included in Odum (1983, p. 395) for comparison.

Other Life Cycles (Odum 1983, p.394): “The fantastic variety of life cycles and symbiotic relationships in the living biota are among the building blocks selected in self-organizational design work by the larger environmental systems. Usually these are taught according to taxonomic criteria and evolutionary similarities. Representation of the relationships in energy diagramming helps to show their energy significance, the kinds of kinetics they contribute, and the commonalities and differences of structure and function. . . . There may be some advantages in these diagrams for teaching basic biology.”

Basic Christianity Diagram (Figure 5):
BASIC SOURCE - GOD, Holy Spirit  
STORAGES - JESUS (also possibly BASIC SOURCE), Joseph, Baby Jesus

Figure 4. Typical sexual lifestyle.
Figure 5. Basic Christianity story.

FLOWS

K1 = GOD creates the HOLY GHOST (spirit)
K2 = GOD creates Virgin Mary
K3 = Mary receives the HOLY GHOST
K4 = HOLY GHOST inseminates Mary
K5 = Baby Jesus grows into man JESUS
K6 = GOD provides nutrition for Man JESUS
K7 = JESUS is led to crucifixion
K8 = JESUS goes to heaven to sit at the right hand of GOD.

Figure 6 shows development of Christianity from Akhenaton through Moses. Scienceman may develop this diagram in a future paper.

THE PULSING OF THE GODS (back to Collins)

Perhaps first a comment on the Ennead is in order as a guess (Ex. 5) of cosmogenesis. Although the prospect of gods spitting out other gods seems ridiculous, the process is not very much different from the current ideas of symmetry-breaking following the Big Bang (Graphical timeline of the Big Bang, 2013), whereby at approximately 379,000 years, space (Nut) and matter (Geb) are created at the end of the photon epoch. Symmetry-breaking is illustrated by a roulette wheel spitting out a particular number as the energy of the rotating ball decreases, leaving all other numbered spaces empty. Here matter is precipitated out and remaining space becomes transparent. Geb creating Osiris is similar to galaxies and stars forming out of matter, where Osiris is identified with the constellation Orion. The dead pharaohs were depicted smiting their enemies like Orion the hunter. The other son Seth or Set or Sin, god of chaos or disruption, could be considered as concentrations of matter into black holes, able to swallow ordered matter. Schroeder (1997) discusses cosmology as exponential elaboration of the Genesis creation story.
Thomas Abel’s work (2003, 2007) on cultural pulsing is relevant to the lifecycle and transformity of gods. Survival of gods is not co-terminal with survival of empires, although related. In the Stone Age roving bands worshipped hunting gods and goddesses. Parker et al. (1980) state:

“The archaic religious states began as local agricultural communities that had their own religious cults. Gradually the local cult and its officials would take control of a village. The whole community was dedicated to the god of the cult, and soon the cult virtually owned the community. The people worshipped agricultural gods and goddesses. Their rituals followed the agricultural cycle of the year.”

As the tiny city-states grew, so did the wealth and power of their cults. Each temple extended its control, until all of the local citizens worked for the temple. We find evidence for this kind of temple-town at Sumer (biblical Shinar), Egypt and Elam.

Kings of the ancient Near East usually served as priests for their local cults. As the political power of the temple grew, so did the power of the king. Neighboring town that had similar religious cults started coming together. They united their beliefs under a common government.” (pp. 18-19)

“As one archaic religious state declined and another state conquered it, the local language and worship customs were mixed with others. So today we cannot tell where many of the ancient languages and beliefs came from. The people of the Near East began worshipping many gods of the same kind (a practice that we call polytheism). They told legends about families of older and younger gods. They added more and more gods to their religions until they had a bewildering throng of deities.” (p. 19)
Frequently the advice of the gods would only code short-term success, so that the social system would collapse, followed by distrust of the given god, and replacement by newer gods. Ur was supposedly sacked 2004 b.c. just after Esau and Jacob were born 2006 b.c. Tainter (1988, pp.48-49) discusses problems with Mesopotamia:

“In this area, agricultural intensification and excessive irrigation lead to short-term above-normal harvests, with increasing prosperity, security, and stability. Within a few years, though, the rise of saline groundwater erodes or destroys the agricultural productivity and thus stability. When powerful regimes, such as the Third Dynasty of Ur...pursued policies of maximizing resource production, complex irrigation systems were developed that were beyond the local abilities to manage and repair. State control was required. When the political realm proved unstable, dangers of salinity increased and the possibility loomed for sudden catastrophic fluctuations.” (p.48)

Much of the floodplain of the ancient Euphrates now lies beyond the frontiers of cultivation, a region of empty desolation. (Tainter 1988, p.1).

It might warrant consideration of the above description when contemplating the result of fracking to obtain natural gas, which according to a webinar of the chemistry society, leaves water residue at 20 times the concentration of sea water. Perhaps if this residue (as indeed nuclear waste) were disposed of properly, all would go well.

Anu, the father of gods of Sumer, based in Erech, was mythologized (and placed in the background) by later invading Hurrians as “progenitor of all gods. His son Kumarbi bit off his genitals and spat out three deities, one of whom, [the storm god] Teshub, later deposed Kumarbi. Scholars have pointed to the remarkable similarities between this Hurrian creation myth and the story of Ouranos, Kronos, and Zeus from Greek mythology.” (Crystalinks 2011, p.24)

According to Freud’s footnote (Freud 1939, pp.55-56) the fertility goddess suffered a similar fate to Anu after volcanos and earthquakes destroyed Crete:

“Jahve was undoubtedly a volcano god. There was no reason for the inhabitants of Egypt to worship him... Evans supposes that the final destruction of the palace of Minos at Knossos was also the result of an earthquake. In Crete, as probably everywhere in the Aegean world, the great mother goddess was then worshipped. The observation that she was unable to guard her house against the attack of a stronger power might have contributed to her having to cede her place to a male deity, whereupon the volcano-god had the first right to replace her. Zeus still bears the name of “the Earth-shaker.” There is hardly any doubt that in those obscure times mother deities were replaced by male gods (perhaps originally their sons). Especially impressive is the fate of Pallas Athene, who was no doubt the local form of the mother deity; through the religious revolution she was reduced to a daughter, robbed of her own mother, and eternally debarred from motherhood by the taboo of virginity.”

It seems this life cycle can be approximated by the life cycle of a cellular slime mold (Edelstein-Keshet 2005. Please see diagrams pp. 500, 501.). There is 1) an original dispersal of spores, leading to 2) local amoeba feeding until food supply (trust or allegiance of nearby people) is used up, followed by 3) gradual merger of cells into an aggregate or slug which can move (create empire), then 4) formation of a sporangiophore (spore-bearing structure) stalk (perhaps religious writing), followed by dispersal of spores again. There are chemical signals that trigger the formation of one unit, comparable to the formation of one god, and considerable mathematical models. It seems there is the possibility of some cells living on from one cycle to another. Also the math of Wayne (2005) involving the combination of vortices into one vortex may be relevant. Phase change theory is relevant. H.T. Odum (1983, p.380) has a diagram of a moss life cycle (Figure 19-34). Although the slime model may seem a harsh view of gods, it is not that far off from Biblical views of other gods.
TRANSFORMITY OF GOD

It seems the transformity of god can be classified into a hierarchy, dependent on scope and time-span of supposed power and operation. There follows speculation, based partly on Abel’s Internet transformities (2011):

<table>
<thead>
<tr>
<th>Representative/god</th>
<th>Transformity (SeJ/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monk/nun</td>
<td>E+08</td>
</tr>
<tr>
<td>Pastor/priest</td>
<td>E+09</td>
</tr>
<tr>
<td>Shaman</td>
<td>E+10</td>
</tr>
<tr>
<td>Bishop</td>
<td>E+11</td>
</tr>
<tr>
<td>Pope/Church leader</td>
<td>E+12</td>
</tr>
<tr>
<td>Advanced robot, e.g. Hal</td>
<td>E+13</td>
</tr>
<tr>
<td>Adept in Knowledge from, say,</td>
<td></td>
</tr>
<tr>
<td>Atlantis, destroyed c. 20,000 b.c.</td>
<td>E+14</td>
</tr>
<tr>
<td>Superman/Batman</td>
<td>E+15</td>
</tr>
<tr>
<td>Alien visitor from another planet</td>
<td>E+16</td>
</tr>
<tr>
<td>Half human-half divine being</td>
<td>E+20</td>
</tr>
<tr>
<td>Minor god</td>
<td>E+21</td>
</tr>
<tr>
<td>Major god, e.g. Zeus</td>
<td>E+24</td>
</tr>
<tr>
<td>Creator god, dormant</td>
<td>E+28</td>
</tr>
<tr>
<td>Creator god, active</td>
<td>E+32</td>
</tr>
<tr>
<td>God with unlimited power</td>
<td>Inf.</td>
</tr>
</tbody>
</table>

The above are simply my (Collins) guesses, although if someone wishes to create a cartoon superhero, he must apply for a copyright by stating exactly what powers and vulnerabilities his character has, as distinguished from other cartoon superheroes. In many ways, this is where the study started, with the rock/scissors/paper game. The value E+24 is not entirely out of line with the Brown and Brandt-Williams paper (2011). Thinking of science as refining religious guesses, it would be interesting to estimate the transformity of the various stages of cosmogenesis after the Big Bang (Graphical timeline of the Big Bang, 2013) and the transformity of the Big Bang itself.

Wolfram (2002) in effect posits simulation as a new kind of religion/science, based on computer programs, with it unclear where these programs would fit into the above chart. Based on stories of dolphins rescuing people, people being warned of bridges out and so on, Collins sees possibility of some substrate as yet not available to science.

On the subject of transformity, it is interesting to observe as a standard topic in comparative religion, the frequent “Left-Right” split in most religions similar to that described in “Political Spectrum Models” (Collins and Scieneceman, 2009). Shiite versus Sunni Moslems, are a current example. It seems religious parties are unable to bridge this gap themselves by a “Cooperative (Co) Party” and it is usually accomplished by political means.

Generally, as stated in ABSTRACT, it seems better to concentrate on hard work (science) rather than fancy/fiction. Vis a Vis A Prosperous Way Down by H.T. Odum and Betty Odum, the book by Amy Chua (2007) mentions the need for “glue” to hold things together. It seems a combined religion-science (Reliscience), with perhaps some warning about working with icons, could provide a better glue than either one individually. The Odums’ work seems to counteract some of the problems with the expansion of American culture as a glue for guiding the world.
CONCLUSION

According to Scienceman, science can be considered as an outgrowth (reliscience) of religion, not necessarily in direct conflict. According to Collins, in some cases, religions can be considered to have the life cycle of a slime mold heading for food based on only local guesses, and, as expected according to the theory, have guesses about some things that may prove out although not known to science at present. In general, religions may expand until some vulnerability is exposed, as in the rock/scissors/paper game. However in the process, new science can develop, creating a greater survivability of culture and people.

REFERENCES

(Scienceman)

REFERENCES
(Collins, including above references)


Mayaguez, PR Jan. 8, 2012 (revised April 14, 2012 and Feb. 18, 2013)