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Representing the Moon

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Abstract. I describe representations of the Moon in western art from an astronomer's perspective. In particular I analyse 34 lunar paintings by Samuel Palmer. There are at least four kinds of representation of the Moon. They include the iconic, which has only symbolic reference to the natural appearance, the accurate, which attempts to reproduce the natural appearance, the 'better than accurate', a representation which conveys more than the natural appearance and the atmospheric, in which the Moon is either iconic or accurate, but which adds to the mood of the picture. Palmer's pictures are iconic and atmospheric.

The symbolism of the Moon is rich and varied, as are its astronomical phenomena, and it repeatedly appears in science, religion, literature and art. Here I consider the accuracy of its representation in western art. Of course, the accuracy of the Moon's representation may not be the important thing about a work of art, in fact the Moon may be one of the least significant details. I examine the question from its intrinsic interest to me as an astronomer in works where the Moon does seem to have an important place.

Phases

The most striking and most readily identifiable property of the Moon is its cycle of phases, as the spherical satellite shifts in orbit round the Earth and shows a changing proportion of its surface as illuminated by sunlight. The cycle of phases progresses from the thin crescent of New Moon, through its appearance as a semicircle at First Quarter a week later, its gibbous shape in the second week of the cycle, Full Moon after 14 days, gibbous again for the third week, Last Quarter at 21 days and back to New Moon.

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The cycle of a month has, of course, been used as a division of time in the calendars of many people. The earliest representations of the Moon are thought to be the 69 icons cut with a stone knife on the Blanchard bone from the Dordogne region of France and dated to about 30,000 years ago.[1] The bone is plausibly suggested to be a hunting diary with the icons representing the phases of the Moon over about three months, with gaps identified as due to cloudy nights.

In general, however, the Moon is represented conventionally in art as a crescent. In the great generality of celestial iconography, if the symbol is round it is the Sun, if pointed a star and if a crescent the Moon. The icon has been progressively removed from its astronomical origins. Pictures of the Virgin Mary often show her standing on the crescent Moon, as well as with a halo of twelve stars. This convention originates with the vision of John in the Book of Revelation, 12, 1–4: 'A great and wondrous sign appeared in the heaven: a woman clothed with the Sun, the Moon beneath her feet, and on her head a crown of twelve stars. She was about to give birth and in the agony of her labour cried out'. *The Immaculate Conception* (c. 1678) by Bartolomé Esteban Murillo (1617–1682) in the Museo Nacional del Prado, Madrid, portrays this vision. In standing on the crescent Moon, Mary is shown supported by the terminator, i.e., the boundary between the light and dark areas of the Moon, using the Moon like the rung of a ladder, without regard to the fact that the Moon is a sphere. The crescent moon is purely iconic and not representative. There is no astronomical thought in Murillo's religious homage.

Accurate representation of the Moon

We can identify depictions of the Moon that recognise its reality by noting if they show its intrinsic markings, or *maria* (from the belief that they were seas). These grey patches have been known a long time and appear in literature as the Man in the Moon, the Rabbit, the Old Man and the Load of Sticks, *etcetera*. For example, in William Shakespeare's *A Midsummer Night's Dream* (1594), Moonshine in the performance of 'Pyramus and Thisbe' is dressed as the Old Man with the Sticks.

> Moonshine:… *the lanthorn is the moon; I, the man i' the moon; this thorn-bush, my thorn-bush; and this dog my dog.*[2]

[1] A. Marshak, *The Roots of Civilization* (New York: McGraw-Hill, 1972).
[2] William Shakespeare, *A Midsummer Night's Dream*, 5.1.

The Man in the Moon is mentioned in *The Tempest* (1611) as being readily visible, something to be pointed out and discussed.

> Caliban: *Hast though not dropped from heaven?*
> Stephano: *Out of the moon I do assure thee: I was the man i' the moon when time was.*
> Caliban: *I have seen thee in her, and I do adore thee. My mistress showed me thee and thy dog and thy bush.*[3]

Baring-Gould identifies numerous references in the mythology of many cultures to the figure in the Moon, which predate Shakespeare by centuries.[4] As one might surmise from the fact that the *maria* are readily visible to the naked eye, it is a documented fact that the surface features of the Moon have been known for millennia.

By contrast, in western art, the features on the Moon first appear surprisingly late, about 1420, in *The Crucifixion* by Jan van Eyck (died 1441), in the Metropolitan Museum of Art, NY.[5] At the edge of the painting the Moon is depicted, as is conventional in depictions of the crucifixion. The addition of the Moon literally illustrates the gospel accounts. With the Sun, it also figuratively acts as a religious statement about the dual nature (man and god) of Jesus. In dramatic terms, it serves as a cosmic backdrop to the brutal but administrative terrestrial drama of the execution of the three men by the Roman Empire. The Moon is shown gibbous, aged about 19 days, with the grey patchy markings of the *maria* visible on it.

The investigation of the nature of the Moon is a feature of the age of science, and caused it to be represented naturalistically in progressively more detail, from which it was possible to draw conclusions about the Moon's nature. In a notebook of circa 1500, Leonardo da Vinci (1452–1615) sketched the lunar surface in charcoal with a text referring to 'spots' whose details 'often show great variation (in contrast)'.[6] They

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[3] William Shakespeare, *The Tempest*, 2.2.
[4] S. Baring-Gould, *Curious Myths of the Middle Ages.* (1869; repr. Montana: R A Kessinger Publishing Co., 1998).
[5] S. Montgomery, *The Moon and Western Imagination* (Tucson, AZ: Arizona University Press, 1999).
[6] G. Reeves and C. Pedretti, *Journal of the History of Astronomy* 18 (1987): p. 55.

never alter position and so cannot be reflections of the terrestrial seas, which would alter position due to the rotation of the Earth and alteration in cloud cover. Confirmed in detail, up to the footsteps of the Apollo astronauts on the dry dust of the Moon's surface, nevertheless astronomers have retained the name maria for large scale lunar markings.

The first telescopic observation of the markings on the Moon was on 5 August 1609 by Thomas Harriott (1560–1621). Harriott, a scientist, teacher and mathematician, constructed a map of the Moon in 1611.[7] His work was unpublished and, whatever his influence as a teacher on his pupils, he had no effect on the course of lunar science. 'Publish or perish' applies both to one's career as a scientist and to one's influence on the progress of science.

Of course, the representation of the Moon was revolutionised by the scientist's scientist, Galileo.[8] Galileo first observed the Moon with his telescope in December 1609 and saw that it was 'just like the surface of the Earth itself, which is varied everywhere by lofty mountains and deep valleys'. Galileo integrated his sketches into finished pictures which were published in *Sidereus Nuncius*.

Representations that are better than accurate

Galileo's aim, like the aim of 400 years of astronomers since, was to represent the Moon accurately. But the Moon can be represented better than accurately. Approaching this aim from both sides of the arts-science divide were the portraitist John Russell (1745–1806) and the engineer James Nasmyth (1808–1890). Nasmyth, a mechanical engineer who invented the steam hammer and the altazimuth telescope configuration that bears his name, constructed Plaster of Paris models of the lunar surface that were photographed under oblique solar illumination.[9] Effectively the pictures, long exposures through the necessity of the technology available, were obtained under studio conditions, not through wobbly telescopes in motion and nor looking through the atmosphere. The models are (of course!) smaller in scale than the craters and mountain ranges that they represent and omitting the progressive curvature of the Moon. This eliminates the natural change in angle of

[7] E.A. Whitaker, in R. Taton and C. Wilson, eds, *Planetary Astronomy from the Renaissance to the rise of Astrophysics* (Cambridge: Cambridge University Press, 1989).
[8] Whitaker, *Planetary Astronomy*.
[9] J. Nasmyth and J. Carpenter, *The Moon: considered as a Planet, a World, and a Satellite* (London: John Murray, 1874).

illumination that exists on the Moon, most oblique on the side of the feature near to the terminator and progressing towards overhead illumination on the side of the feature towards the centre of illumination of the Moon's face. Nasmyth's technique maintains the contrast of moonlit and shadowed areas of the features across the image. The models also exaggerate topographic contrast, like the more recent Magellan spacecraft images of the surface of the planet Venus (5 times exaggeration in height).

Nasmyth and Carpenter also prepared a map of the complete face of the Moon that used the same principle. Depicting the general aspect of each object 'we so adjusted the shading that all objects should be shown under about the same angle of illumination – a condition that is never fulfilled upon the moon itself, but which we consider ourselves justified in exhibiting for the purpose of conveying a fair impression of how the various lunar objects actually appear at some one or other part of a lunation'.[10]

Russell did something similar. From sketches made through Herschelian telescopes (in fact he was offered a telescope by William Herschel himself), he constructed pastel drawings of the gibbous moon 'painted from nature' but with impossibly oblique light over a larger region near the shadow's edge than happens in nature, in order to highlight the relief. There is one version of his picture in Soho House, Birmingham, associated with the members of the Lunar Society and another in the Museum of the History of Science in Oxford.

All these examples of the representation of the Moon have high astronomical content, which extends beyond the naturalistic.

The atmosphere of the Moon

In art, the Moon can be represented both for itself but more likely for the effect that it produces in the painting. In science, the Moon has no atmosphere, but in art its function is to provide atmosphere.

In *Sheepfold, Moonlight* (1856-60) by Jean-François Millet (1814–1875), in the Walter's Art Museum, Maryland, the painter set a scene of a shepherd with his flock under the misty light of a rising gibbous Moon. The Moon, the effect of its light around, and the meteorology are all naturalistic, but crafted with atmospheric effect. Of this painting Millet wrote: 'Oh, I wish I could make those who see my work feel the splendours and terrors of the night! One ought to be able to make people

[10] Nasmyth and Carpenter, *The Moon*.

hear the songs, the silences, and the murmurings of the air'. The picture shows that the gibbous Moon is waning, and astronomically the time is a little after 10 pm in mid-January.[11]

This is unusually late for a shepherd to be turning his sheep into their fold. Perhaps this is why both the shepherd and his dog look tired, comments Livingston.[12]

The Moon features in *The Starry Night* by Vincent van Gogh (1853–1890) in the Museum of Modern Art in New York. The picture was painted June 16-17 1889 in Saint Remy, France. The Moon's position in the upper right hand corner is compositional and it adds to the 'weight' of the depiction of the sky above the trees, the hills, the village church and the hamlet. Although not naturalistic, the night sky is based on identifiable features of the night sky at the time. The Moon's crescent shape corresponds to its pre-dawn appearance on May 21 and June 20. Venus as a morning star in late May was seen by Vincent. He wrote to his brother Theo: 'This morning I saw the country from my window a long time before sunrise, with nothing but the morning star, which looked very big'. The Milky Way was visible in early June, excluding moonlit hours. The picture is thus a composite of astronomical elements that Vincent had seen from the window of his room.

We have clues in his writing of the important meaning of the picture. 'Looking at the stars always makes me dream', Vincent said, 'Why, I ask myself, shouldn't the shining dots of the sky be as accessible as the black dots on the map of France? Just as we take the train to get to Tarascon or Rouen, we take death to reach a star'. *Starry Night* shows the connection between the domestic world and mankind's greatest spiritual achievements (as represented by the spire of the church), with the universe, both astronomical (as represented by the moon and other astronomical phenomena) and natural (as represented by Vincent's favourite cypress trees). If I was being picky I could, as an astronomer, carp about the shape of the crescent moon, whose outer circumference extends impossibly beyond a semicircle. This is a minor blemish, fully acceptable as part of Vincent's exaggeration of naturalistic appearance. The astronomical content of the picture is high.

[11] W. Livingston, 'What's wrong with a gibbous moon?', *Sky and Telescope* (February 1992): p. 159.
[12] Livingston, 'What's wrong with a gibbous moon?'.

Palmer and his lunar muse

No artist was more obsessed by the Moon than Samuel Palmer (1805–1881). But his representations of the Moon are, for an astronomer, disappointingly shallow in their astronomical integrity, as I will show. Palmer was an English, romantic, landscape painter. In his early years, Palmer was one of the followers of William Blake. In his so-called Shoreham period, he painted images of a timeless English rural landscape of shepherds, wheat fields and country life. After visiting Italy in 1837 Palmer's style changed and his subject matter widened, but his landscape continued to represent a serene and abundant, ideal countryside.

In the sky above many of his landscapes, Palmer painted the Moon. This enhances the feeling of timelessness, and the unfailing rhythm of the seasons, as well as evoking a time of day and a bittersweet mood. The Moon was such a persistent, perhaps overplayed, feature of Palmer's work, that his mentor John Linnell, with Palmer's agreement, painted it out of one work. Palmer was conscious of this obsession with the Moon, and traced it to a particular incident of his infancy.[13] His mother hired a nurse, Mary Ward, to look after Samuel and she fed both his body and his mind. She was devoted to the Bible and to the works of Milton. On her deathbed, she gave Palmer her copy of Milton's poetry, which he carried for twenty years. In 1871, he recalled how 'When less than four years old, as I was standing with her, watching the shadows on the wall from the branches of an elm behind which the Moon had risen, she transferred and fixed the fleeting image in my memory by repeating the couplet –

> Vain man, the vision of a moment made,
> Dream of a dream and shadow of a shade.

The verse is by Edward Young and is a *Paraphrase on Part of the Book of Job*. Said Palmer, 'I never forgot those shadows, and am often trying to paint them'. A similar story is told of Palmer's friend Calvert. So too, Coleridge is said to have built upon an early experience of the Evening Star. [14]

In 1824 Palmer met William Blake and fell under his spell. For three years Palmer borrowed directly from Blake, and began to combine Blake's visionary style of painting with Milton's visionary style of

[13] R. Lister, *The Paintings of Samuel Palmer* (Cambridge: Cambridge University Press, 1985). Referred to in the text as 'P'.
[14] G. Grigson, *Samuel Palmer* (London: Kegan Paul, 1847).

poetry. His sketchbooks (CR 43) of this period change.[15] 'From careful studies of a cheap bedroom window-curtain on its rod and a leaf of cottager's kale, we turn to a wild flight of spirits across the disc of a planet. There are thirty-three moons in this one volume and vast flaming suns' (Palmer in Grigson 1988). In the same sketchbook is a Miltonian poem presumably by Palmer (CR 43, leaf 37):

> *Twilight Time*
> And now the trembling light
> Glimmers behind the little hills, and corn,
> Lingring as loth to part: yet part thou must
> And though than open day far pleasing more
> (Ere yet the fields and pearled cups of flowers
> Twinkle in the parting light;)
>
> Thee night shall hide, sweet visionary gleam
> That softly lookest through the rising dew:
> Till all like silver bright;
> The Faithful Witness, pure & white,
> Shall look o'er yonder grassy hill,
> At this village, safe, and still.
> All is safe, and all is still
> Save what noise the watch-dog makes.

On settling in Shoreham, Kent, in 1826, Palmer was visited often by fellow artists, including George Richmond and William Blake. They sat and painted the cornfields by moonlight, to the consternation of local villagers who called them 'extollagers' and who thought the artists' camp stools were astrological or magical instruments. Palmer saw the Kent countryside as a mystical landscape. At Shoreham, he had

> Beheld as in the spirit, such nooks, caught such glimpses of the perfumed and enchanted twilight – of natural midsummer, as well as,

[15] The late Raymond Lister was the most prominent modern expert on Palmer and published the *Catalogue Raisonné* of the complete works (R. Lister, *Catalogue Raisonné of the Works of Samuel Palmer* (Cambridge: Cambridge University Press, 1988) (referred to as 'CR') and a selection of his *Paintings* (Lister, *The Paintings of Samuel Palmer*). References in this paper such as '(CR 43)' are to the *Catalogue* and references such as '(P 20)' are to one of the 75 paintings reproduced in the second book.

> at some other times of the day, other scenes, as passed thro' the intense purifying separating transmuting heat of the soul's infabulous alchymy, would divinely consist with the severe and stately port of the human as with the moon, thron'd among constellations, and varieties of lesser glories, the regal pomp and glistening brilliance and solemn attendance of her starry train.

Palmer's paintings are often clear representations of this feeling.

Palmer married on September 30 1837 and toured Italy on his honeymoon until the autumn of 1839. He painted scenes from life during his tour, including *Papigno on the Nar, below the Falls of Terni* (1839) (CR 346). The scenes were rarely purely topographic but were improved with the addition of romantic details, such as ruins. he finest groups of works of Palmer's maturity are series of subjects from Milton's *L'Allegro* and *Il Penseroso* and Virgil's *Eclogues*. Several of these illustrations depict the Moon. Palmer depicts the Moon in a variety of ways. In a Catalogue annexed to this paper, I discuss 34 of Palmer's depictions of the Moon. I have excluded from discussion any of the etchings and engravings that Palmer made or supervised. It is unsafe to discuss the orientation of the Moon as shown in an etching or engraving, because the printing process will reverse the scene from the plate, and one may not know whether the engraver has taken this into account in its preparation.

Position and shape of the Moon

New Moon

The illuminated face of the Moon is always pointed directly at the Sun. When the Moon lies between the Earth and the Sun, the illuminated face of the Moon points away from Earth – it is the dark face of the Moon that points to the Earth. We call this 'New Moon'. The 'age' of the Moon is the time that has elapsed since New Moon, and is correlated with its phase. Strictly speaking, we cannot see the New Moon itself because the New Moon is dark and in the direction of the much brighter Sun. In ordinary language, we use the term 'New Moon' to mean a very thin crescent Moon, one to four days old.

The youngest Moon that can ever be seen from anywhere occurs about 18 hours after New Moon. A Moon so young lies very near to the Sun, and can be seen immediately after sunset near the horizon only in a clear sky. It helps in seeing a young Moon to be stationed at equatorial latitudes, so that the Moon is at its highest in the sky immediately after

sunset. So it is unusual in Britain's murky skies and at our relatively high latitudes to see the Moon aged less than 2 days old. In *Pastoral scene* (CR 215), Palmer shows such a thin crescent, in a murky sky.

Full Moon

When the Earth sits between the Moon and the Sun, the entire illuminated face of the Moon points back to the Earth. The illuminated lunar sphere looks like a complete circle. This we call 'Full Moon'. The Full Moon occurs halfway through the 28-day orbit, so the Full Moon is 'aged 14 days'. Since the Moon and the Sun are in opposite directions at this time, the Full Moon rises as the Sun sets, and sets as the Sun rises. The Full Moon is always on the opposite part of the sky to the twilight. The Full Moon may never be viewed in the twilit sky, as in Palmer's *Coming from Evening Church* (CR 123, P 20).

The crescent Moon

In the days before and after New Moon, the Moon lies off to one side of the line joining the Earth and the Sun. A crescent of the illuminated face of the sphere of the Moon can be seen. The crescent always forms half the circumference of the Moon, encircling 180 degrees. Put another way, the line joining the horns of the crescent is a diameter of the circular face of the Moon. The crescent Moon never appears, as in *Late twilight* (CR 56), encircling about three-quarters of the Moon's perimeter (270 degrees).

When the Moon appears as a crescent, the horns of the crescent point away from the Sun. In a twilit sky, the Sun lies below the horizon under the brightest part of the twilight. Therefore, if the crescent Moon is seen in a twilit sky, the horns must point away from a point under the brightest part of the twilight. The horns of the crescent can never point towards the Sun, as in *Yellow Twilight* (the catalogue number is (CR 120), but the reproduction in the *Catalogue Raisonné* is not good enough to show the Moon).

The gibbous Moon

When the Moon is more than a half circle but less than a complete one, it is called 'gibbous'. The gibbous Moon is underrepresented in art. Livingston says that there is a 'clear artistic consensus' that the gibbous Moon is aesthetically displeasing, 'unfinished', some say, or of

inharmonious proportions.[16] The term itself means humpbacked. It is interesting that, against the trend, van Eyck, Millet and Russell in the examples identified above all chose the gibbous phase to depict in highly naturalistic representations of the Moon. It is not tainted by the overfamiliarity of the crescent phase. In spite of his avowed continuing interest in the Moon, and the fact that he boasted about painting from nature even at night, so he must have seen the gibbous Moon, Palmer painted it not at all

Position of the crescent Moon relative to twilight

As seen from northern latitudes, like England (or Europe generally), the Moon moves from its position at New Moon in the direction left of the Sun (as seen by us). A thin crescent appears about a day after New Moon. As the gap between the Sun and the Moon widens, day by day, the Moon moves progressively westwards (towards the left) and the crescent becomes thicker (the Moon 'waxes'). After seven days, half the illuminated face of the Moon can be seen from Earth – the Moon looks like a half circle, with the straight edge on the left. This is called First Quarter Moon (because one quarter of the Moon's orbit has been completed), and the Moon is 'aged 7 days'. During the week between New Moon and First Quarter, the Moon may be seen in the evening twilit sky or the hours immediately afterwards. It is always above and to the left of the Sun. After sunset in this week, the Moon is always to the left of the brightest part of the twilit sky, and it sets before midnight. As the Sun rises in the mornings of this week, the Moon is below the horizon. By the time the Moon has risen, the sky has brightened to full daylight and the Moon cannot be discerned.

In short, if it is evening, in England, and the Moon appears as a crescent, the crescent will be left of the setting or recently set Sun. In the last week of its monthly orbit, the Moon's crescent reduces or 'wanes' from Third Quarter (a half circle Moon with the straight edge on the right; the Moon 'aged 21 days'), and approaches the Sun from the right as seen from northern countries. It may be seen in the twilit sky only in the pre-dawn hours, and is always above and to the right of the rising Sun. See *Papigno on the Nar, below the Falls of Terni* (1839) (CR 346). The orientation and position of the crescent Moon are therefore different in the evening from the morning:

[16] Livingston, 'What's wrong with a gibbous moon?'.

- *Evening*
  The crescent lies to the left of the setting Sun and the brighter part of the twilight that surrounds the Sun, and the horns of the crescent point to the left.
- *Morning*
  The crescent lies to the right of the setting Sun and the brighter part of the twilight that surrounds the Sun, and the horns of the crescent point to the right.

The Harvest Moon and earthshine

When a place on the Earth is turned towards the Full Moon, the Sun is hidden behind the Earth and it is night time. Sunlight reflects off the face of the Moon down on the dark, night-time face of the Earth and provides enough light to see the surrounding terrestrial scene. From an aeroplane or spacecraft, features on the moonlit Earth below may be clearly distinguished. This is why, in the Second World War, the Full Moon was called Bombers' Moon – it helped bombers to find their targets. At other times of the month, moonlight is less intense and the effect is less noticeable.

The Full Moon nearest to the autumnal equinox (late September) is known as the Harvest Moon. The light of the Full Moon, rising as the Sun sets and daylight ends, extends the hours during which the harvest can be gathered in. Palmer showed this scene in *The Harvest Moon* (CR 168).

When the positions of the Earth and the Moon are interchanged, at the time of New Moon, the dark face of the Moon is illuminated by sunlight reflected from the Earth. The Moon's surface is illuminated by 'earthshine'. At the precise moment of New Moon, the Moon lies too close to the Sun to be seen against the Sun's glare. A day or two after the New Moon, however, a thin crescent of sun-lit lunar surface is visible; so too is the earth-lit portion, often with enough clarity to be able to see the dark marking on the Moon's *maria*. The sight of earthshine on the Moon, half surrounded by a brighter thin crescent is called 'The old Moon in the New Moon's arms'. Palmer depicts earthshine in *A rustic scene* (CR 53, P 7), *Late twilight* (CR 56).

Earthshine is a characteristic sight of a clear evening, a few days after New Moon. The sight is equally visible just before dawn, a day or two before New Moon, but less often seen because we tend to lie in abed in the morning.

The tilt of the Moon's orbit

The track of the Moon away from the Sun, as the Moon progresses from New Moon towards First Quarter, makes an angle with the horizon. Because the Moon's orbit is inclined to the equator of the Earth's rotation, the angle that the Moon makes with the horizon varies with the season. Near the autumnal equinox (September 21), in the morning as the Sun is rising, the crescent Moon tracks upwards near vertically in the sky. Since the horns of the crescent Moon point away from the Sun, the horns of the rising crescent Moon point, in an autumn morning, straight up, almost vertically, but a little to the right – the crescent Moon looks as if it is lying on its back. Near the spring equinox (March 21), however, the rising crescent Moon skims, in the morning, close to the horizon. It is oriented 'upright', and its horns point almost horizontally to the right.

On an autumn evening, the Moon also skims close to the horizon, setting after the Sun. The crescent Moon is oriented 'upright' and its horns point almost horizontally, to the left. On a spring evening, the crescent Moon lies on its back, its horns pointed a little to the right of vertical, and lies on its back, dropping down like a descending chalice.

The Full Moon in the autumn also tracks close to the horizon, so the Harvest Moon hangs low in the sky. When the Moon is close to the horizon, it seems larger than usual – this psychological effect is called the 'Moon illusion'. Thus the Harvest Moon seems larger than normal – as depicted by Palmer in *The Harvest Moon* (CR 168, P 25), *The valley thick with corn* (CR 58), etc.

Palmer's inconsistent Moon

The catalogue annexed to this paper describes 34 pictures by Palmer that depict the Moon.

Phases

In the Catalogue analysed here there are 11 depictions of the crescent Moon between New Moon and First Quarter (the evening Moon), 14 Full Moons and 9 crescent Moons between Last Quarter and New (at dawn). As already mentioned, there appear to be no gibbous Moons in Palmer's works.

(In)consistency

Depictions of the crescent Moon have the greatest detail in them about their timing, astronomically speaking. In about a third of Palmer's

pictures of the crescent Moon there is one inconsistency or another, either an internal inconsistency of relative geometry (position of Moon relative to twilight etc) or external inconsistency between the Moon and the subject matter (psychological time of day, season, text being illustrated etc).

Palmer's landscapes often seem to be accurate depictions of nature, and by his account were painted from life, sometimes in the moonlight that is the subject of this paper. Individual topographical features and tree species can be identified, as well as lichens, birds, plants and animals. One would imagine that an artist with such an interest in the natural world and especially an avowed intense interest in the Moon would depict it accurately. This supposition is wrong.

In this paper, I have shown that Palmer's pictures of the Moon are often inconsistent in such details as its orientation with the different seasons, and its position at different times of the day (morning and evening). He was not interested in astronomy, nor what he saw in the sky, nor the Moon *per se*. In fact a close reading of the quotation above about the incident that sparked his interest in the Moon shows that he noted, not the Moon, but 'the shadows on the wall'. As he said: 'I never forgot those shadows, and am often trying to paint them'.

As an astronomer I am disappointed to say, however, that even within this limited sphere Palmer's interest was shallow. In the pictures that he painted, the orientation of the Moon relative to the twilight and the Sun is inconsistent between the modelling and shadows of what is shown and the source of light. There is no evidence that he really considered the illumination of the astronomical scene.

I conclude that what interested Palmer was only the atmosphere and mood that the Moon imparted to his pictures. His paintings have the appearance of being naturalistic representations of the Moon, but, just as he painted not particular people but generic shepherds, so also he painted an accurate Moon in only few respects. Palmer's representations of the Moon are almost as much of a lunar icon as Murillo's.

Conclusion

I have shown that there are at least four kinds of representation of the Moon. They are

- the iconic, which has only symbolic reference to the natural appearance.
- the accurate, which attempts to reproduce the natural appearance.

- the ‘better than accurate’, a representation which conveys more than the natural appearance.
- the atmospheric, in which the Moon is either iconic or accurate, but in which it adds to the mood of the picture.

Catalogue of Palmer’s lunar paintings
Several of these pictures are illustrated on the web and can be found through the Fine Art internet search engine at http://www.artcyclopedia.com/artists/palmer_samuel.html.

(CR 53, P 7) *A rustic scene* (1825)
A ploughman is shown with a bullock and a plough. The picture illustrates Virgil's Georgics, Bk. I.

> When Libra makes the hours of day and night equal [i.e. at the autumnal equinox, near September 21], and now divides the globe in the middle between light and shade, then work your bullocks, ye swains, sow barley in the fields, till towards the last shower of the inclement winter solstice.

It is not clear in the picture whether the bullock is being unyoked at the end of the day, or yoked to begin the day of work. The Moon is shown as a thin crescent, with strong earthshine revealing the maria. Its horns point upwards and to the right – it is the morning, near the autumnal equinox. The Moon is on the horizon, above and to the right of bright twilight, with crescent towards the rising Sun. This also indicates that it is dawn, and the Moon is about 26 d. old. The illumination of the ploughman and ox is consistent with the twilit sky but the illumination source of the tree trunk is opposite, from over the right shoulder of the viewer. The Moon and Sun show that it is dawn, and the subject matter that is depicted is consistent with the yoking up of the bullock at the start of the working day at the autumnal equinox.

(CR 56) *Late twilight* (1825)
A shepherd lies asleep with his flock, a wheat field of partly cut and stooked corn. Inscribed on the old mount of the picture are the words: ‘LATE TWILIGHT. “The west yet glimmers with some streaks of day.” Milton’ (in fact, Shakespeare, *Macbeth* 3.3.5).

The Moon is a thin crescent, enclosing earthshine. It is surrounded by a halo produced in the cloud through which it shines. Its horns are mostly to the left and a little up (late summer). The horns correctly point away from the twilit sky. It is evening and the Moon is about 3 days old. The crescent of the Moon encircles about 270 degrees of the Moon’s perimeter, inconsistent with the 180 degrees which is the reality.

The Moon and the Sun show that the time of day is the evening, consistent with the inscription (the Sun sets in the west). However, if it is evening, the sleeping shepherd and sheep, very tired, have fallen asleep within minutes of sunset. The season is consistently shown.

(CR 58) *The valley thick with corn* (1825)
A poet reads, and a shepherd pipes over his flock (some of whom are grazing). Cows stand in the partly cut corn. Bats fly in the sky as if at night. The mood is of the evening. But the shadows are strong and come from illumination behind but mainly to the right of the viewer, as at late afternoon. The large, full harvest Moon (age 14 days) is on the horizon, centrally and at the rear of the picture, almost touching the horizon. Astronomically it is just after sunset or just before sunrise.

The subject matter and the astronomical material are consistent, but not the light source and strong modelling of the drawing technique.

(CR 60) *The haunted stream* (c. 1826)
A youthful poet sits on 'summer eves' on a bank looking across to a gothic spired church or cathedral on the other side of a stream. The picture illustrates Milton's *L'Allegro*, II, 129.

Above distant mountains, the horns of a crescent Moon (aged 26 days) point up and right at 45 degrees to the horizon (it could be June or December), away from the twilit sky to the left of the picture. In the darker part of the sky on the right are stars. It is dawn, just before sunrise. It is not evening and not really summer.

(CR 62) *Moonrise* (c. 1826)
This is an unclear drawing of a hill, stream and gothic church. The crescent Moon (horns to the right and above horizontal, aged 23 days, with earthshine) is cut by the upper edge of the hill. There are schematic stars in the dark sky above the Moon. It is a summer dawn. There are no inconsistencies, but the subject matter is low in content.

(CR 66, P 10) *A hilly scene* (c. 1826)
The picture shows mid-summer in an English village (trees are fully leaved, corn is uncut). But the crescent Moon lies on its back, with twilight to the left of the Moon, so it is a September dawn, with the Moon aged about 25 d. A bright star, presumably Venus, lies off the right-most point of the crescent. If Venus, the planet is in its morning star manifestation.

(CR 72) *A shepherd and his flock under the Moon and stars* (c. 1827)
A shepherd stands over his sheep, in a valley under hills with a Gothick castle. The scene lies under a vast crescent Moon, lying on its back. The last traces of twilight are visible to the left of the picture. There are six schematic stars around

the Moon. Astronomically it is a September dawn, with the Moon aged about 25 d.

Lister relates this picture to a letter from Palmer to George Richmond: 'I have beheld as in the spirit, such nooks, caught such glimpses of the perfumed and enchanted twilight – of natural midsummer, as well as, at some other times of day, other scenes, as passed thro' the intense purifying separating transmuting heat of the soul's fabulous alchymy...'.

(CR 73) *A moonlight scene with a winding river* (c. 1827)
The full Moon on the horizon shines through trees and illuminates a woodland scene, including a bird's nest with eggs. It is thus spring. There are no inconsistencies.

(CR 110-113, 118) *A Kentish idyll*, *Moonlight landscape, A shepherd leading his flock under the full Moon, Landscape with full Moon and deer,* (c. 1829-30), *Shepherds under a full Moon* (c. 1830)
These five related pictures show the full Moon on a hilly horizon, shining through a cloudy mackerel sky. There are no inconsistencies.

(CR 117, P 21) *Cornfield by moonlight, with the evening star* (c. 1830)
A farm-worker walks with his dog (homewards?) through stooked corn. The crescent Moon (aged about 5 days), with earthshine and dark *maria*, is on the horizon, its horns pointing to the left, and a little above horizontal. The horns point away from the twilight. It is indeed a summer's evening. Above and to the right of the twilight is Venus, inconsistently placed (since it orbits in the same plane as the Sun the Earth and the Moon, it should be more on the line from the Moon to the Sun).

(CR 120) *Yellow twilight* (c.1830)
A wooded ridge or headland is shown above a plain on the left. The main point of the picture is the glorious twilight, predominantly lemon yellow, with bands of orange and an area of red over the plain on the left. The Moon is a thin crescent, lying over the headland, to the right of the splendid colours of the Sun. It is dawn, because the Moon's horns point to the left, towards the brightest part of the twilight where the Sun is. The picture is inconsistent as to the orientation of the crescent Moon towards the Sun.

(CR 123, P 20). *Coming from evening church* (1830)
Figures of all ages process from a spired church in a village. The full Moon rises over the hilly horizon. Details on the Moon's face suggest the mountains and craters of the Moon. Below the Moon, to the left, is the last glimmer of an orange, rosy twilight. The full Moon is never in the direction of twilight.

(CR 128, 136) *Harvest Moon, Shoreham* (c.1830-1), *Young man yoking an ox* (1831-2)
The full Moon rises on the horizon, while harvesters work and a ploughman unyokes his ox, respectively. In (CR 128) the Full Moon dominates the picture. There is a suggestion of the late stages of twilight in the brighter illumination of the sky to the right. If so it would be inappropriately placed since the Full Moon and the Sun are opposite to one another in the sky.

(CR 142) *The sleeping shepherd* (c. 1831-2)
A shepherd sleeps on a hummock, his sheep graze quietly. The crescent Moon, aged three days, shows through the trees, in a configuration that suggests an evening in June or July.

(CR 143) *Moonlight: a landscape with sheep* (c.1831-2)
Two seated shepherds talk beside sleeping sheep. As in (CR 142), the four-day old crescent Moon shows through trees in a configuration that suggests an evening in June or July. Curiously the sky is brighter above the Moon than below.

(CR 168, P 25) *The Harvest Moon* (1833)
About 20 people (many of them women) harvest the corn and load it only an ox-drawn hay wain by the light of a large Full Moon rising through trees, whose trunks are correctly back-lit. An unidentifiable constellation of 7 stars shows in the sky. This serene picture is astronomically consistent.

(CR 213, 214, 215, P 33) *Pastoral scene* (1835)
CR 213 and 214 are preliminary drawings for CR 215. All show a steep sided valley cutting past a cliff face into the sea (Devon?). On the hillside, harvesters are at work in the corn, and there are sheep and rustic workers in the foreground. To the left over the sea, in a bright twilit murky sky (cloud and sea fog?), is the Moon. In all cases, the Moon is a crescent, horns pointed almost horizontally to the left, as on a September evening. In (CR 213) the Moon is a simple crescent about 2 days old, in (CR 214) the Moon is an older crescent, with earthshine, and in the finished work (CR 215) the Moon is the thinnest crescent, aged 1 day, perhaps.

(CR 346) *Papigno on the Nar, below the Falls of Terni* (1839)
In this watercolour, observed during Palmer's 'grand tour' of Italy, rustic travellers approach a ruined hill top town under a richly lit twilit sky. Right of centre is a crescent moon, aged perhaps 25 days, with horns pointing up and right away from the brightest part of the twilight. The moon is reflected in water below – presumably the river Nar. The Moon is correctly depicted in the dawn sky – even though he was on his honeymoon, Palmer was up before dawn to observe this phenomenon.

(CR 371, also P 50, CR 372) *Near Underriver, Sevenoaks, Kent* (c. 1843)
The Kentish landscape is shown in both watercolours, which are virtually identical. The sky is bright twilit and the crescent Moon at about 3 days old shows well above the horizon with horns up and to the left (an evening in June, July?).

(CR 547) *Night Scene* or *Fortune Telling – the Gypsy and the Waggoner* (1858)
A gypsy lady at her encampment reads the palm of a waggoner, his wife is seated on the waggon a few steps away. The Full Moon is visible through trees to the right and a constellation of stars (said by Lister to be Ursa Major,[17] also known as Charles' Wain) is part visible through the trees to the upper left. The nearer trees are back-illuminated by the bright moonlight.

(CR 621) *The Return from Gleaning* (c. 1864)
A woman carries gleaned corn on her head to her mother-in-law's cottage, in evening. The picture may be an illustration of *Ruth* II, 17-18 'So she gleaned in the field until even, and beat out that which she had gleaned... and took it up, and went into the city; and her mother-in-law saw what she had gleaned...'. The Full Moon rises on the horizon in a murky sky. It is a consistent picture.

(CR 630) *Going home at curfew time* (1864)
The shepherd and his child drive goats towards a village in a hilly landscape. The Moon is aged about 5 days, approaching First Quarter, showing a configuration appropriate for a midsummer evening. It is centrally placed in the twilight, rather than off to the south (left) of the setting sun.

(CR 636) *A Waggon returning home at evening* or *Full Moon* (c. 1865)
A waggoner offers a place on his waggon to a woman suckling a child. The Full Moon rises on the horizon in a cloudy sky.

(CR 653) *Evening, Cattle watering* (c. 1870)
Cattle drink at a river. The thin crescent Moon (aged about 3 days) lies nearly on its back setting on a spring evening, and oriented towards the bright twilight above the recently set Sun. Consistent.

(CR 678) *Classical river scene* (c. 1878)
A broad river flows through a hilly landscape at twilight. Like (CR 630) the crescent Moon is about 4-5 days old and oriented appropriately for a summer evening, and, like (CR 630) also, is placed wrongly with respect to the twilight. The Moon is right of centre in the picture and the set Sun lies centrally, under the

[17] Lister, *The paintings of Samuel Palmer*.

brightest part of the twilight and causing the brightest reflection in the river. Inconsistent.

(CR M13 and M14, P 67 and P 68) *A towered City* or *The haunted stream* (c. 1868)

(CR M13, P 67) is a study for (CR M14, P68). The picture is one of a series for Milton's *L'Allegro* and is reminiscent of (CR 60) illustrating the lines:

> Towred Cities please us then,...
> Such sights as youthfull Poets dream
> On Summer eeves by Haunted stream.

The hill top city is silhouetted against a dramatically coloured sunset with crescent Moon aged about 3 days, correctly oriented to the brightest part of the sky and appropriate to an evening in mid-summer.

(CR M15, M16) *The curfew* or *The wide water'd shore* (c. 1864, 1870)

(CR M15) is a study for (CR M16). Like the (CR M13 and M14 pair) the picture is one of a series for Milton's *L'Allegro* and illustrates the lines:

> I hear the far-off curfew sound
> Over some wide water'd shore...

Across the wide river is a church silhouetted against a twilit sky with crescent Moon aged about 3 days and oriented for an early summer evening. Like (CR 630) the Moon lies inconsistently above the brightest part of the twilight, as reflected in the river.

(CR M21, M22, P 69, and M 23 P 70) *The lonely tower* (1864, 1868(?) and 1879)
All these pictures illustrate *Il Penseroso*:

> Or let my lamp at midnight hour,
> Be seen in some high lonely tower,
> Where I may oft outwatch the Bear,
> With thrice great Hermes.

A tower with lamp-lit window stands on a hill admired by two shepherds. Beyond the trees and a stone henge, the crescent Moon lies on the horizon. The time of day is a mystery. The crescent Moon, horns up and to the right, aged 23-24 days, must be rising just before sun-rise, and the first glow of twilight is correctly appearing to the left of the Moon. The text talks of the 'midnight hour'.

The traveller and the waggon master climbing the hill, and the relaxed chat of the shepherds suggest that the psychological time of day is evening.

Lister claims to identify the Great Bear in the stars at the top of the picture.[18] Since the Great Bear is a northern constellation, and the scene is oriented towards the east, this is not likely to be so.

(CR V19) *And while the troubled moon shrunk in and set* (1876)
This drawing is one for a series of etchings illustrating Virgil's *Eclogues*, in this case Eclogue VIII, and shows a clouded Full Moon.

[18] Lister, **'**What's wrong with a gibbous moon?'

421. Samuel Palmer, *A Rustic Scene*, 1825 (pen and brush). The crescent moon and earthshine are shown accurately in relation to the twilight, provided the time of day is dawn. Ref no. AMO 101

Samuel Palmer, *The Harvest Moon*, 1833 (oil on paper). The serene picture of late harvesting under a full moon and a constellation of stars is astronomically accurate. Ref no. YBA 162467.

Samuel Palmer, *The Lonely Tower*, 1868 (watercolour). The crescent moon on the horizon beyond the trees is clearly in the dawn twilight. The psychological time of day, with a traveller and waggon master seeking shelter and shepherds chatting, is the evening. The picture illustrates a text that places the time in the middle of the night. Ref YBA 228887.