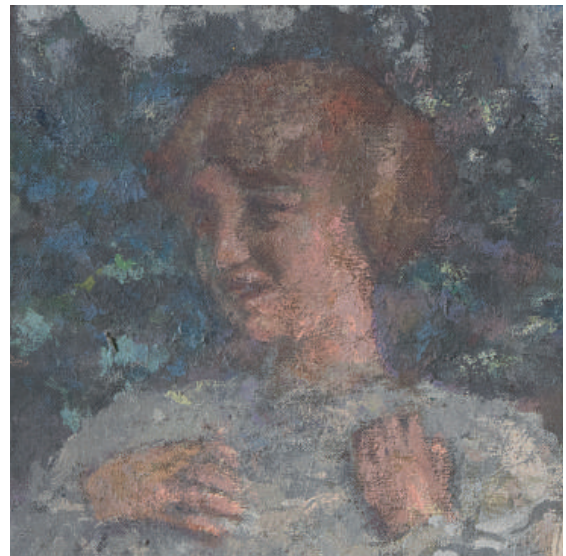


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#### FRONT COVER

Edouard Vuillard, *La Terrasse at Vasouy, The Lunch* (NG 6373), 1901, reworked 1935 (detail).

#### TITLE PAGE

TOP LEFT: Adolphe Monticelli, *Subject Composition* (NG 5010), reverse, probably 1870–86 (detail).

TOP RIGHT: Pierre-Auguste Renoir, *The Umbrellas* (NG 3268), c.1881–6 (detail).

BOTTOM LEFT: Niccolò di Pietro Gerini, *Saint Peter: Left Tier Main Panel* from *Baptism Altarpiece* (NG 579.2), 1387 (detail).

BOTTOM RIGHT: Edouard Vuillard, *La Terrasse at Vasouy, The Lunch* (NG 6373), 1901, reworked 1935 (detail).

## Renoir's *Umbrellas* Unfurled Again

ASHOK ROY, RACHEL BILLINGE AND CHRISTOPHER RIOPELLE

Renoir's famous and complex image of Parisian everyday life in the 1880s has exercised the imagination and interpretive skills of several generations of art historians. It has been discussed in articles ranging from Martin Davies's short catalogue entry for the National Gallery in 1970<sup>1</sup> to a recent extended and wide-ranging account of the picture by Colin B. Bailey in his 2012 exhibition catalogue.<sup>2</sup> In the meantime, the challenge of interpretation had been taken up by John House in 1985<sup>3</sup> and by a former curator of nineteenth-century painting at the National Gallery, John Leighton, working in conjunction with his colleagues from the Scientific and Conservation Departments on the 1990 *Art in the Making* exhibition devoted to Impressionism.<sup>4</sup> One of the pictures in the Sir Hugh Lane Bequest (the display of which is shared between London and Dublin), *The Umbrellas* (NG 3268) is among the most popular works seen by the public both at Trafalgar Square and at Parnell Square North at the Dublin City Gallery The Hugh Lane.<sup>5</sup> Perennial interest in the picture, and new information discussed here, make it worthwhile to 'unfurl' the intriguing technical evidence of its making once more.

The picture is unusually complex in its evolution, and it has long been known that Renoir worked on the composition in at least two quite separate major phases of painting, the first around 1881 (stage 1) and the second probably at some time close to 1885 (stage 2) (FIG. 1). Between those dates Renoir was away from Paris travelling extensively in France, North Africa and Italy. The conclusion regarding two stages of painting was based first on a suggestion by Davies and developed more fully by House, on the grounds of the suggested dates for the two types of women's fashions represented in the picture and a conventional printed X-ray composite photograph which showed major changes in the composition, particularly to the costume of the young woman holding the handbox at the left-hand foreground. As described in the catalogue of *Art in the Making*, 'the dresses and hats worn by the figures at the right conform to a fashion that appeared in 1881

and which became popular in 1882. The vogue was superseded the following year by a more severe style of dress with simple straight lines. The woman with the handbox is dressed in this later style which was the height of fashion in 1885–6 but which had fallen out of favour by 1887.'<sup>6</sup> The clothes, their contemporary terminology and their dates have since been described and explored in much greater depth by Bailey.<sup>7</sup>

Technical studies of the painting at the National Gallery made in preparation for the *Art in the Making* exhibition in 1990 revealed an important, although fortuitous discovery regarding Renoir's technique for *The Umbrellas*. Based on paint cross-sections and an analysis of Renoir's pigments, it emerged that he had changed his palette in two important respects between the earlier phase of painting in about 1881, and his subsequent alterations and elaboration of the composition some four or so years later. The blue pigment used in the first stage of painting, most clearly seen in the figure group at the right, was exclusively cobalt blue, in keeping with Renoir's practice of the 1870s and very early 1880s.<sup>8</sup> When he resumed work on the picture after a significant gap in time, his chosen blue was switched to French, or artificial, ultramarine, which has a greyer, more steely tonality, particularly when mixed with small amounts of other pigments.<sup>9</sup> This more muted tone dominates the finished composition we now see. Blue is very widespread in the picture and therefore represents a valuable indicator of the origin of any particular paint layer, that is, whether it belongs to stage 1 or stage 2. A comparable change in palette involves Renoir's use of yellow pigment: based on analysis, stage 1 paint contains only 'zinc yellow' (zinc potassium chromate),<sup>10</sup> whereas in stage 2, he substituted exclusively lead-antimonate yellow (Naples yellow).<sup>11</sup> Where yellow occurs, including in mixed paints, this can also be used to assign that particular passage of paint to the earlier or later phase of execution.

Based on this observation on Renoir's palette and the X-ray image of the painting, it became possible in 1990 to extend the interpretation of the evolution of



FIG. 1 Pierre-Auguste Renoir, *The Umbrellas* (NG 3268), c.1881–6. Oil on canvas, 180.3 × 114.9 cm.



FIG. 2 NG 3268, digitally processed X-radiograph.

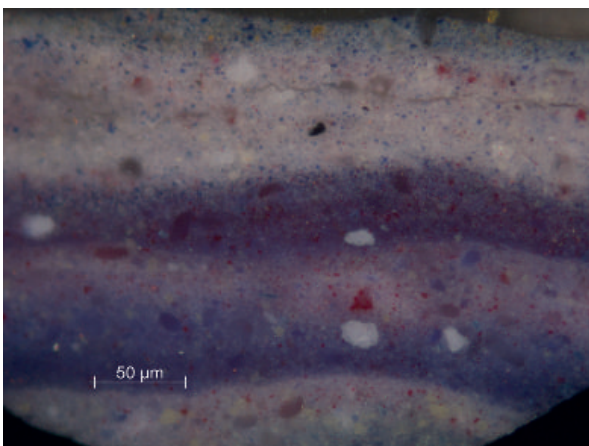


FIG. 3 NG 3268, cross-section from left-hand woman's bodice showing its surface modification (stage 2), and original colour design (stage 1) beneath. The principal pigments in the lower layers are cobalt blue, zinc yellow and red lake; the second stage involves the exclusive use of French ultramarine as the only blue pigment.



FIG. 4 Pierre-Auguste Renoir, *At the Theatre (La Première Sortie)* (NG 3859), 1876–7. Oil on canvas, 65 × 49.5 cm.

the composition first put forward by Davies and House. The main conclusions were that the foreground figure group at the right was created in stage 1 and then not much modified later, and a first version of the young woman at left was also painted at stage 1, although she was dressed in the earlier fashion of 1881–2. In this earlier representation, which is partially visible in the X-ray image, and is indicated also by the complex paint layer structure on that side of the picture (FIGS 2 and 3), the young woman was represented as wearing a skirt constructed of tiers of horizontal frills, her skirt may have had a belt, she had lace cuffs and a lace collar, and she was wearing some form of hat. The brushwork evident in the X-ray image (FIG. 2) is consistent with the feathery application of paint seen also in the figure group at the right, and which Renoir used widely in the 1870s and very early 1880s, as in, for example the National Gallery's *At the Theatre (La Première Sortie)* (NG 3859) (FIG. 4) of about 1876–7. As explained above, the lower paint layers for this first stage of painting contain only cobalt blue and zinc yellow (and no French ultramarine or Naples yellow). It was not entirely certain in 1990 whether the male figure leering at the

young woman at her left was present early on, or only incorporated by Renoir when he returned to the picture in the studio after his absence from Paris. Similarly, the umbrellas themselves seemed to have been incorporated only at the second stage, since as far as could be judged from the paint layer structures, the bluish-grey fabric of the umbrellas contains only French ultramarine.

The exceptional recent loan of *The Umbrellas* to the Frick Collection in New York (*Renoir, Impressionism, and Full-Length Painting*, 7 February–13 May 2012) prompted a new examination of the picture at the National Gallery, specifically the recording of an infrared reflectogram (see FIGS 5 and 6) of the whole painting which throws further light on the evolution of the composition, particularly when studied in conjunction with a digitised version of the X-radiograph, which proves easier to read than the earlier unprocessed analogue photographic X-ray mosaic. Perhaps the most important change in interpretation is our new conclusion that the man at the left was not painted in stage 1: he appears to have been introduced at the time of the reworking of the young woman at the left. It is also now possible to see more clearly the form and profile of the left-hand woman's painted-out hat in the processed radiograph (FIG. 7), which seems to have been of a largish, floppy, rather structureless design, perhaps somewhat similar to that worn by the young woman in *On the Terrace*, 1881, in the Art Institute, Chicago (FIG. 9). It is clear from a cross-section through the hair of the woman at the left in *The Umbrellas* that this now-concealed hat was a deep, slightly purplish red (FIG. 8),<sup>12</sup>



FIG. 5 NG 3268, detail from infrared reflectogram, showing Renoir's linear development (dark painted lines in infrared) of the main figures to the left in stage 2.



FIG. 6 NG 3268, detail from infrared reflectogram, showing outlines of the umbrellas (dark painted lines in infrared), some of which were followed in the completion of stage 2, others not. This image also shows the 'ruled line' across the entire width of the upper part of the picture (see text and FIG. 12).



FIG. 7 NG 3268, detail of X-radiograph, showing the painted-out hat of the woman at the left.

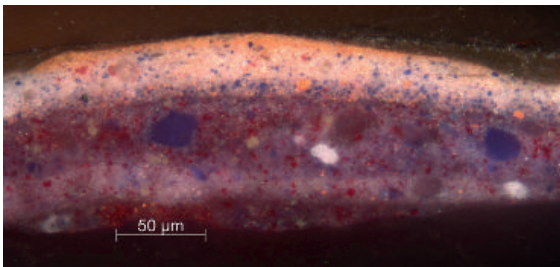


FIG. 8 NG 3268, cross-section from the chestnut-brown hair of the young woman to the left showing the purple-red paint of the earlier (stage 1) hat beneath the surface.



FIG. 9 Pierre-Auguste Renoir, *Two Sisters (On the Terrace)*, 1881. Oil on canvas, 100.5 × 81 cm. Chicago, Art Institute of Chicago, Mr and Mrs Lewis Larned Coburn Memorial Collection, 1933.455.

as in the Chicago picture. The fact that the X-ray image of this painted-out hat, seen as a light, roughly oval patch, is present in the area of much of the lower and right-hand part of the face of the man to the left (see FIG. 7) suggests strongly (although does not prove beyond doubt) that the figure of the man was not present at the end of stage 1, contrary to the argument presented in the *Art in the Making* catalogue.<sup>13</sup> In that account, mauve, grey and yellow paint on the left-hand canvas turnover had been interpreted as belonging both to the first stage of the dress of the woman holding the bandbox, and to the clothes of the male figure extending onto the turnover. However, the fragments of paint thought to have represented the latter seem on re-examination to fit better with the female figure in her first incarnation.

The thickness of the paint and its multilayered character in those areas which were comprehensively reworked by Renoir, in particular the full-length woman at the left, prevents full penetration of infrared radiation to the very first stages of the picture's design. However, in spite of this impenetrability, a most useful aspect of the new infrared image is the detection of quite extensive lines of intermediate 'underdrawing' in paint with infrared-absorbing characteristics (FIG. 5 and 6). These lines appear to be related to the beginnings of the stage 2 composition, in which Renoir indicated some of the alterations to figures and other features, or plotted out his intention to elaborate the composition into what must have been largely unfinished or relatively featureless areas. For example, the infrared image shows dark lines defining a new shape for the woman's bodice (see FIG. 5), sleeves, hands, skirt and bandbox; these were presumably applied over the finished figure of stage 1. Similar lines are also visible outlining the man to the left

behind her, reinforcing our interpretation for this figure as a stage 2 creation. The same is true for lines indicating the overall shapes of several of the umbrellas (see FIG. 6), including those held by the two older women in the group at the right, although these curving outlines were not always followed when the open umbrellas themselves were painted, using only the French ultramarine-containing paint of Renoir's stage 2 work.

In comparing the infrared and X-ray images it becomes evident that some of these preliminary positions for the umbrellas were painted and subsequently painted over, which explains why the 'underdrawing' does not always show clearly. It still seems likely that the umbrellas occupying the upper third of the picture, and the middle-distance figures holding them, were a development entirely of stage 2, although several cross-sections indicate that there was paint in this part of the picture at stage 1 (FIG. 10), of very pale tones of yellow, blue, green, pink and brown, presumably rather similar to the present variegated paint of the foreground between the two main figure groups. A comparison can be drawn both in concept and colour to the winding path in Renoir's similar-sized painting in the Frick Collection (New York), *La Promenade* of 1875–6 (FIG. 11).

Although these new observations clarify our earlier view of the course of Renoir's evolution of the picture, there remain several unanswered questions. The presence of more than just fragmentary paint on the present tacking margins, particularly at the left, indicates that Renoir may have altered the format of his picture between stages 1 and 2, perhaps taking it off its original stretcher and later putting it on to a somewhat differently sized (or differently shaped) stretcher. The upper part of the picture contains another puzzling feature, which is difficult to account for. This has been newly revealed in the infrared image. At some stage – it is not known

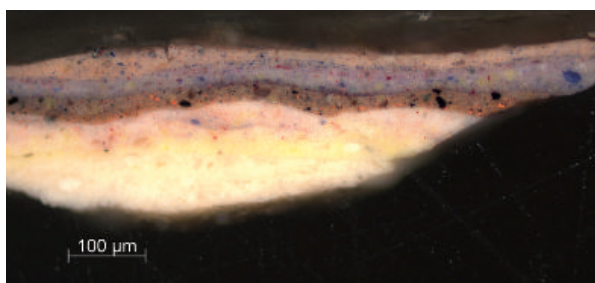


FIG. 10 NG 3268, cross-section from brown coat (stage 2) of partially hidden male figure, middle distance, right, over earlier (stage 1) tones of pale yellow, green and pink of the first background. The uppermost brown paint layer contains French ultramarine; the lower layers contain cobalt blue.

whether early or late in the development of the painting – Renoir ruled a line across the background, just above the tip of the uppermost umbrella in the upper centre of the composition (that is, the one between the mass of foliage at the left, and the group of tall buildings in the distance at the right) and painted light-coloured paint directly below the line and to the right of a vertical mark about two-thirds across from the left edge (FIG. 12). This vertical feature remains visible at the surface and forms the edge of a terrace of distant tall buildings, while the horizontal mark was obscured with further paint. The line could relate to some form of measurement to calculate the effects of a change in overall format; it could, of course, simply relate to the disposition of the row of buildings to the upper right, which were only cursorily developed in the finished form of the composition.<sup>14</sup>

The upper left quadrant of *The Umbrellas* is as difficult to interpret as any part of the picture. From the radiograph, the area of blue, yellow, orange-brown and green foliage hatched in using short diagonal brushstrokes evidently passes over earlier paint, in which the brushwork runs at an opposing angle. It has been noted that the surface brushwork in this area is remarkably comparable to Cézanne's 'constructive stroke',<sup>15</sup> and may well reflect his direct influence (FIGS 13 and 15). It would therefore belong to stage 2. The pigment constitution of the foliage, lacking either cobalt blue or zinc yellow, confirms this view. The brushstrokes in the underlayers of paint may simply be the paint of a patch of early sky which, judging from its disposition a little to the right, could well have been applied in stage 1.

Another change in this general area is the apparent late inclusion of the small orange 'kiosk' now visible between the umbrella at the far left and the lower mass of foliage just above (FIG. 14), which draws the eye with an interesting touch of 'complementary contrast' between the hot tone of the lower part of the roof of the little building and the juxtaposed greys and blues of umbrellas and costumes.<sup>16</sup> (The chestnut-coloured hair of the young woman at the left, which is a stage 2 addition, and the auburn hair of the younger girl to the far right, probably just belonging to stage 1, make use of the device of a similar colour contrast with surrounding paint.) The X-ray image of the area encompassing the small round building is a confusion of concealed brushstrokes, and it seems that at first a rather larger building with a pitched roof, which stretched some way further to the right, was included in this area.





FIG. 11 Pierre-Auguste Renoir, *Mother and Children (La Promenade)*, 1875–6. Oil on canvas, 170.2 × 108.3 cm. New York, Frick Collection, Henry Clay Frick Bequest, Accession number 1914.1.100.

It would be a mistake to believe that the early Impressionist phases of the painting were put down directly and without alteration, and this does not seem to have been Renoir's general practice even in the 1870s.<sup>17</sup> The radiograph shows, for example, that there were two positions for the left foot of the older girl at the far right, and there is vigorous reworking of the head and face of the woman at the centre looking up (FIG. 16). In this figure, both the radiograph and the infrared image reveal changes to her hands and umbrella. The surface paint of the umbrella which is shown being opened against the rain contains French ultramarine and was perhaps not included at the end of stage 1, or at least not in its final form. But it is hard to imagine the shaft being created only at stage 2, which leads us to the wholly conjectural possibility that perhaps this key figure in the narrative of the picture was in fact opening a parasol, not an umbrella, in a scene first conceived as bathed in sunlight?

*The Umbrellas* provides both fascinating and complex evidence of the profound change in stylistic direction with which Renoir was experimenting in the mid-1880s. He would have known perfectly well that connoisseurs of his own time, if not later, would recognise that part of the work had been altered in a new, more severe style, and yet he chose to let the discrepancy stand.



FIG. 12 NG 3268, detail showing a portion of 'ruled line' in the upper part of the composition.



FIG. 13 NG 3268, detail showing the brushwork of the foliage, upper left.



FIG. 15 Paul Cézanne, *Avenue at Chantilly* (NG 6525), 1888. Oil on canvas, 82 × 66 cm. Detail showing the brushwork of the foliage.



FIG. 14 NG 3268, detail showing the small 'kiosk' in background, upper left.



FIG. 16 NG 3268, detail showing one area of Renoir's reworking of this part of the picture.

## Acknowledgements

We are most grateful to Colin B. Bailey, Deputy Director and Peter Jay Sharp, Chief Curator at the Frick Collection, New York, for discussions of *The Umbrellas* and for his generosity in sharing his new work on the picture.

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## Notes

- 1 This entry first appeared in M. Davies, *National Gallery Catalogues: French School*, London 1946, p. 83, and again, text unchanged but with additional notes, in the second edition (revised) of 1957, pp. 196–8.
- 2 Colin B. Bailey, *Renoir, Impressionism, and Full-Length Painting*, exh. cat., The Frick Collection, New York, Yale University Press, London 2012, pp. 138–65.
- 3 J. House, A. Distel and L. Gowing, *Renoir*, exh. cat., Galeries nationale du Grand Palais, Paris 1985, cat. 57, pp. 194–7. This exhibition also travelled to London (Hayward Gallery) and Boston (Museum of Fine Arts). *The Umbrellas* was only exhibited in London and Paris.
- 4 D. Bomford, J. Kirby, J. Leighton and A. Roy, *Art in the Making: Impressionism*, exh. cat., National Gallery, London 1990.
- 5 The Sir Hugh Lane Bequest in 1917 brought to the National Gallery 39 continental paintings, largely French, among which were a small group of some of the best-known Impressionist pictures now in the collection. Following an examination of a codicil in Hugh Lane's will, an agreement was made in 1959 that the pictures he had bequeathed should circulate between London and Dublin. Bailey 2012 (cited in note 2) describes Hugh Lane's relationship with *The Umbrellas* in amusing detail.
- 6 Bomford et al. 1990 (cited in note 4), p. 190.
- 7 Bailey 2012 (cited in note 2).
- 8 Pigments and layer structure were examined fully by one of the authors (A. Roy) in 1988 using microscopy of paint cross-sections, and SEM-EDX analysis, principally. Ultraviolet-light microscopy also proved helpful. The history of use and pigment characteristics of cobalt blue are described in A. Roy, 'Cobalt Blue', in *Artists' Pigments. A Handbook of Their History and Characteristics*, Vol. 4, B.H. Berrie (ed.), National Gallery of Art, Washington, DC 2007, pp. 150–77.
- 9 Although the well-known colour quality of natural (lapis lazuli) ultramarine is of a pure royal blue tonality, the artificial equivalent (French ultramarine), invented in 1827–8, often shows a greyish tone, particularly when used as a tint with white, or when it is mixed with small amounts of other finely ground pigments. The particles of artificial ultramarine are generally finer than the natural material (although not always), and appear to be optically denser under the microscope. However, there is little measurable difference in refractive index between the two. See J. Plesters, 'Ultramarine Blue, Natural and Artificial', in *Artists' Pigments. A Handbook of Their History and Characteristics*, Vol. 2, Ashok Roy (ed.), National Gallery of Art, Washington, DC 1993, pp. 51, 57–9.
- 10 Zinc yellow is chemically zinc potassium chromate, and approximates to the stoichiometry  $K_2O.4ZnCrO_4.3H_2O$  (CI Pigment Yellow 36, No. 77955). It was first made in about 1800, and published by Louis Vauquelin as a possible pigment in 1809, along with many other chromium-based materials. It was widely available by the 1850s (*jaune de zinc*, and other more fanciful names). See H. Kühn and M. Curran, 'Chrome Yellow and Other Chromate Pigments' in *Artists' Pigments. A Handbook of Their History and Characteristics*, Vol. 1, R.L. Feller (ed.), National Gallery of Art, Washington, DC 1986, pp. 201–4.
- 11 Naples yellow (*jaune de Naples*) is the traditional description for a synthetic form of a mineral known as bindheimite, although the mineral material does not appear ever to have been used as a pigment. Manufactured lead antimonate yellows have a long and complex history of use in painting and other applications (particularly as ceramic colorants) to at least the early sixteenth century and perhaps before. Renoir, in common with a number of French painters, adopted Naples yellow as a standard part of his palette in the 1880s, abandoning, probably for reasons of poor stability, pigments based on chromium, the archetype of which is 'chrome yellow' (lead chromate).
- 12 The painted-out hat in *The Umbrellas* is largely red lake pigment with some cobalt blue, white and lesser amounts of some other pigments. The red lake from another area of the picture has been identified as probably based on a cochineal dyestuff on a tin-containing substrate; there is starch extender in the lake. See J. Kirby, M. Spring and C. Higgitt, 'The Technology of Eighteenth- and Nineteenth-Century Red Lake Pigments', *National Gallery Technical Bulletin*, 28, 2007, p. 92.
- 13 Bomford et al. 1990 (cited in note 4), p. 193.
- 14 We have noted recently also that there is a series of irregularly spaced short horizontal lines apparently ruled in graphite pencil on both left and right turnover edges. On the left, measuring from the bottom left corner, these occur at 60.9 and 61.2 cm (that is, a double-lined ruling), at 119.6 cm (feint; possibly) and at 122.4 cm. On the right-hand turnover, these occur at 58.4, 80.6, 110.0, 117.8 (feint; possibly) and 122.4 cm. Only the lines in the region of about 58–61 cm roughly coincide across the width of the picture. No theory has been advanced so far as to the significance of these ruled lines or the time that they were applied to the picture. It is not even certainly provable that they were by Renoir's hand.
- 15 For Renoir's debt to Cézanne, see most recently C. Riopelle, 'Renoir e la lezione di Cézanne' in *Renoir: La maturità tra classico e moderno*, a cura di Kathleen Adler, Rome 2008, pp. 99–105. Renoir sought out Cézanne in order to paint side by side with him early in 1882 in Provence and again in 1885 at La Roche-Guyon. The repainting of *The Umbrellas* would seem to correspond chronologically with the latter meeting.
- 16 The meaning of complementary contrast for painters is discussed in 'Impressionist use of Colour', Bomford et al. 1990 (cited in note 4), pp. 83–9.
- 17 It is clear from the X-radiograph of Renoir's *At the Theatre (La Première Sortie)* (NG 3859) of about 1876–7 that this composition was comprehensively recast in the course of its creation: see Bomford et al. 1990 (cited in note 4), pp. 152–5.

This article is dedicated to the memory of our distinguished friend and colleague, Professor John House, born 19 April 1945, died 7 February 2012. (AR)