

Acceptance Speech BBVA Foundation

Members of the BBVA Foundation, Award Winners, Ladies and Gentlemen, Professor Michael Fisher and I feel deeply honored by our selection to receive this year's BBVA Foundation of Knowledge Award in Basic Sciences. This award is especially meaningful to us as it recognizes our contributions to understanding nature in a way that has led many others to deepen their own explorations. From how matter cooperates in going from liquid to vapor and from order to disorder to how basic bond-making and bond-breaking transformations occur in molecules, we have sought to find and understand models that describe fascinating mysteries of nature. Our struggles and devotion have, indeed, filled decades of our daily lives. In many ways such endeavors are lonely. The satisfaction of obtaining insight into how models work and how nature behaves may, at first, seem like a private pursuit — but, in reality, much of the pleasure for us lies not only in discovering ways to picture the processes of nature but also in sharing those pictures with others.

In this way, we believe that science and art, when practiced at their ideal levels, have much in common. There is a joy of creation, of giving shape to what initially seems formless and without purpose or obscure and abstruse. For both of us, however, the joys of science are not simply in the process of discovery but also in communicating our insights to others. Artistic expression may be similarly rewarded. What few composers would write music if there were no performers to play their compositions? How many performers would thrive if there were no friends or audience to hear them? What few visual artists do not appreciate fellow artists and viewers who behold their creations and find meaning in them? In like manner it is the telling of a story, as well as its conception, that provides pleasure for so many.

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Creation, whether artistic or scientific, is thus both a solitary and a communal undertaking. In isolation, an artist may experience the simple joy of creativity — letting oneself be wafted by the winds of inspiration to produce a work that is loved for itself, independent of any praise that it may engender; but, nonetheless, the joys of that creation are enriched by the pleasure it evokes in others. And just as the work of an artist may find fresh interpretations in the eyes of a perceptive observer — views not contemplated by the original creator — so the scientific illumination of a fundamental tenet of nature often finds an unanticipated extension in the conceptions of other scientists, thereby opening windows on fresh vistas and gates to new pastures.

And on occasions such as this it is important to recognize that we serve not as isolated actors; rather, we draw upon many others who make our creations possible, the teachers we have had, the families and friends that support us, our students and colleagues, our coworkers, and even competitors, who contribute to the enterprise. Furthermore, one must recognize the charitable and governmental institutions that have supported basic scientific research when the returns to society often seem intangible and remote.

There are so many who have backed our endeavors: we remember especially those who worked to nominate and support us and the members of the jury who gave their time and selected us for this most special and gratifying honor. It is sadly evident that we live in turbulent financial times: it would be an easy decision to dismiss the basic sciences whose fruits often seem far removed from the most pressing day-to-day problems of the world. Therefore, Michael Fisher and I are all the more grateful to the BBVA Foundation who, together with the Spanish National Research Council, have maintained this awards program. Their efforts and continued support indicate a depth of insight and concern and awareness that humanity must work for both the

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present and the future, while maintaining a firm awareness of past discoveries. This commitment speaks to the importance they see in individuals who treasure the knowledge of how fundamental processes take place in nature. We hope it will inspire others to follow in this noble pursuit.

In conclusion, Michael Fisher and I join in expressing our profound gratitude.
