Distance Education Through Bangladesh Open University

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A university is designed to impart knowledge and skills of defined structure to its clienteles of different hierarchical levels and to award them Certificates/Degrees/Diplomas in recognition of their attainments. Until recently, it has been done only through campus education imparting knowledge and skills in classroom confines with the teachers and taught in direct contact with one another.

Recent revolutionary developments in communication technology have enabled the universities to take a larger load of responsibility to disseminate knowledge and skill beyond the limits of classroom and across the boundaries and in doing so, to award Certificates/Diplomas/Degrees of recognition after imparting education through a system known as DISTANCE EDUCATION.

Distance Education can be defined as a system of education using an instructional process in which a significant proportion of teaching is conducted by someone far from the learner. Characteristically, the concept of open or distance education implies a process of teaching and learning which is different from that of classroom system.

It is an indirect system of teaching and learning and in it the teacher and the taught are not in direct contact with or within the physical reach of one another. The typical process implies a way of dissemination of knowledge and skill which is punctuated by the distance of time and space.

Development of communication media has made open education easier and popular and ultimately, it has emerged as an easy alternative to formal education. An open university is designed to provide learners with access to an extensive area of academic and non-academic subjects. It offers a wide variety of formal and non-formal programmes and courses through different media.

Thus, open university is a system of distance teaching which makes it possible for those who are otherwise deprived of formal learning to study at home for a Certificate/Diploma/Degree or to follow non-formal programmes of general nature and awareness. An open university is therefore, more comprehensive and wider embracing in as much as it caters for individual needs based on national priorities for any level of learners in a great many fields by providing opportunities for gaining knowledge and skill.

It also makes a positive contribution to make conscious and knowledgeable citizen by disseminating valuable information and knowledge about life and environment. The need for an open university in Bangladesh was therefore, felt long ago.

Bangladesh Open University (BOU) is a new approach to the education system in Bangladesh. BOU is a project of the Ministry of Education (Government of the Peoples Republic of Bangladesh), and it is being implemented with the financial assistance of Asian Development Bank (ADB). It is a five year project to be completed in 1997. The main objective of the project is to provide flexible and need based education to those who are unable and not willing to join the conventional teaching institutions.

BOU will offer greater access to education and training of the masses, particularly, to rural and disadvantaged groups like village women, agricultural workers, unemployed youths, uneducated adults, health and family planning workers etc for increasing equitable access to education, to develop human resources of the country and to improve quality, relevance and efficiency and of the education system by introducing courses of studies compatible with social and development needs of the country through different modes of teaching. It would provide access to wide-range of educational programmes and vocational training for all levels of people.

The history of Distance Education in Bangladesh dates back to 1956 when Education Directorate was assigned with the responsibility for distribution of Radio Centre (AVEC) in 1962. In 1978-80, a Pilot Project entitled School Broadcasting Programme (SBP) was taken up. In 1983, SBP and the erstwhile AVEC were merged and the National Institute of Education Media and Technology (NIEMT) was set up.

In 1985, Bangladesh Institute of Distance Education (BIDE) was established and NIEMT was incorporated in BIDE. Apart from producing and supply of Audio-Visual materials to educational institutions, BIDE organised a formal Bachelor of Education (B Ed) course programme using the distant mode of teaching for the untrained secondary level teachers. As per the decision of the Government, the BIDE has been put under the administrative control of the Bangladesh Open University since June 1992.

Three groups of students totalling 1028) were admitted to the B Ed course during 1985-87 and of them 7202 completed the course. During 1992 and 1993, more than 11000 students were enrolled in the B Ed course which is a regular course run students have already been admitted in the course.

BOU considered it necessary to conduct a country-wide educational need survey to access the demands of the clientele group regarding the introduction of different types of course (already identified) by region, location and gender and to assess and identify new courses by BOU. The survey therefore, affords an opportunity to ascertain the usefulness of the identified courses in the context of the development and social needs of Bangladesh.

The survey would provide a durable basis for selection of courses with better realization of various constraints and advantages of BOU's unconventional methods of teaching. The area covered in selecting and testing of the courses give due importance to fields related to skill development, productive systems, business enterprise, environment, health and mass education. This reflects a wide choice for assessment of genuine needs, preferences and ascertain demands of the clientele group. With the start of the other programmes, BOU's student the enrollment would shoot upto several hundred thousand which will be much higher than the total enrollment of all other universities in the country.

BOU would include the BOU's central campus (located at Board bazar, Gazipur), Gazipur), ten Regional Resource Centres (RRC) (at Dhaka, Mymensingh, Comilla, Sylhet, Chittagong, Barisal, Jessore, Rajshahi, Bogra and Rangpur) and eighty Local Resource Centres (LRC) throughout Bangladesh to pass on all information about BOU's programmes. The RRC's will be equipped with all resource materials including library, the reading room and the audio, video, radio, television. The RRC would supervise and co-ordinate the functions of the LRCs. BOU would offer academic programmes at all levels and sectors of education which will be based on country's man-power, planning and socio-economic needs.

These programmes would be inter-disciplinary and job-oriented in nature. There will be short and long term programmes leading to the award of Certificates/Diplomas/Degrees. The courses would be modular (a sub-component of a study guide which specifies the instructional objectives, describes the learning activities and provides feedback from self-instruction) in nature and will provide sufficient flexibility to the learners in respect of choice and combination.

The academic programmes would be project through its six schools namely, the School of Education and Management Studies, the School of Health Services and Population Studies, the School of Agricultural and Rural Development, the School of Open Technology, the School of Social Science, Language and Women Studies and the Open School responsible for the running of all formal and non-formal programmes and courses within its respective area of subject matter expertise.

Out of the six schools namely, the School of Education and Management Studies, the school of Social Science, Language and Women Studies and the Open School have started functioning partially at the moment and the other schools be made effective later with the fledgling of the university.

BOU can effectively create a mature and highly motivated clientele among the women, individuals heeding economic literacy and language abilities, and those interested in micro-enterprise programmes. Thus, Bangladesh Open University would make a valuable contribution by offering courses most needed for clientele and would open up possibilities for their integration with productive process of the country.
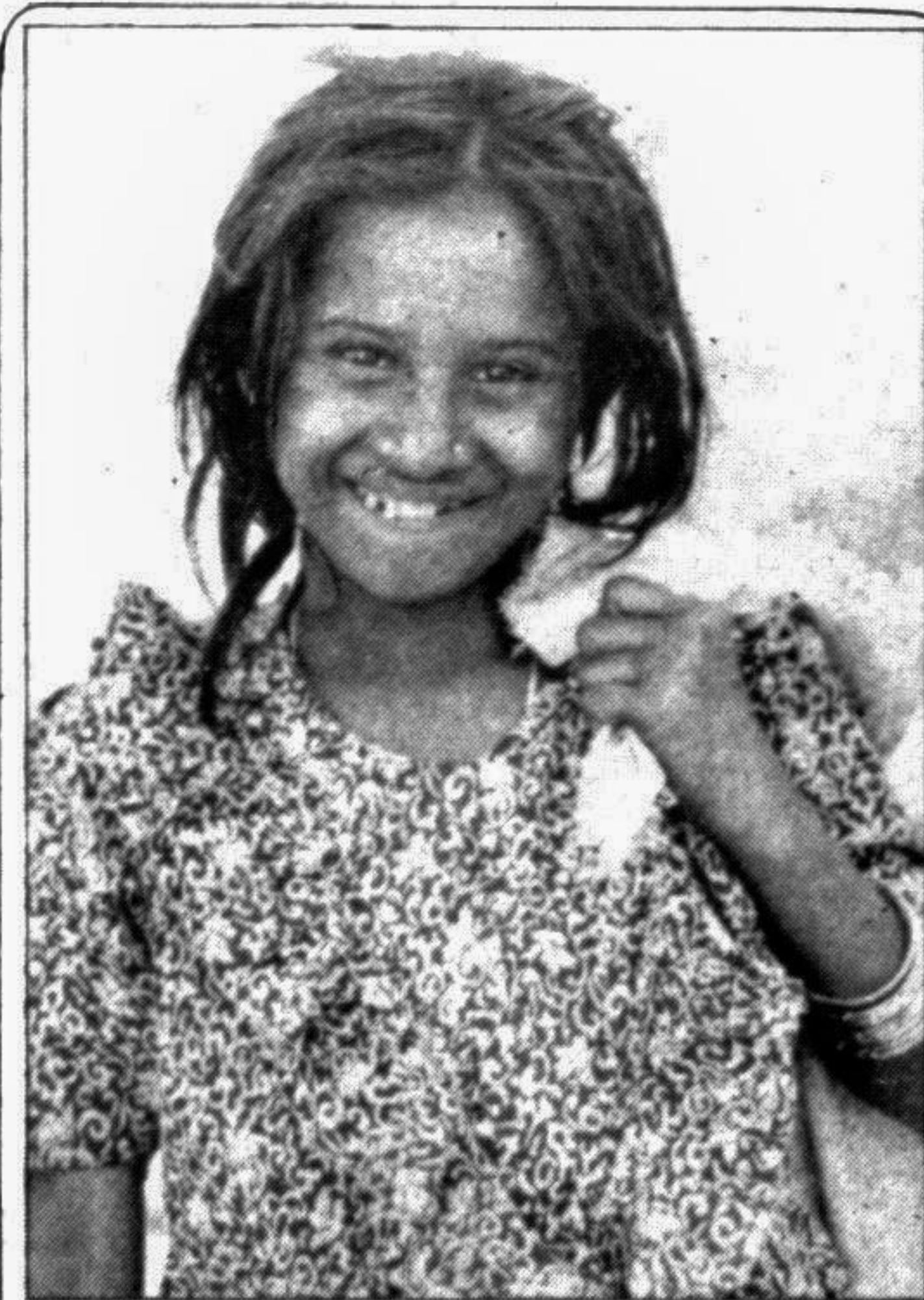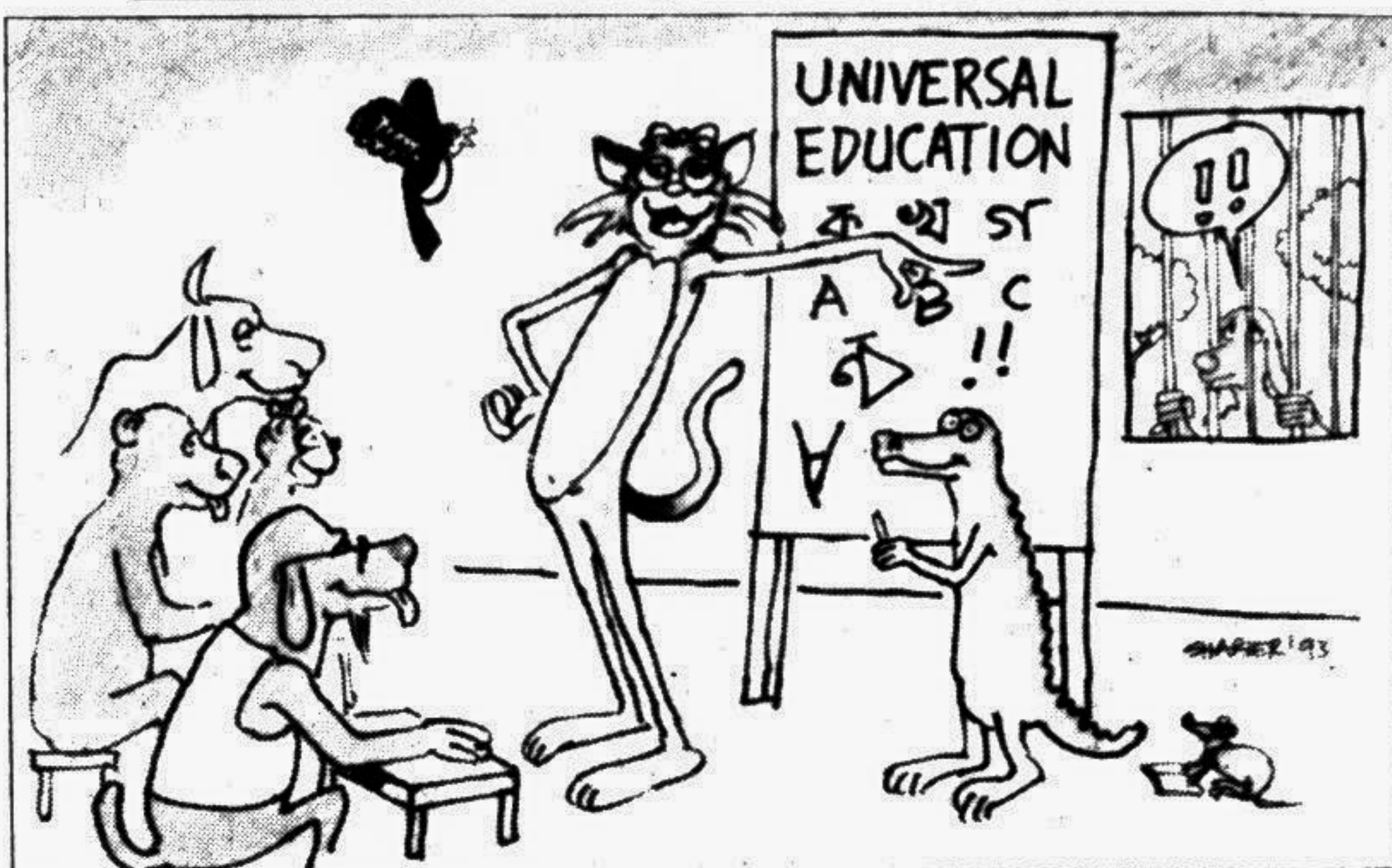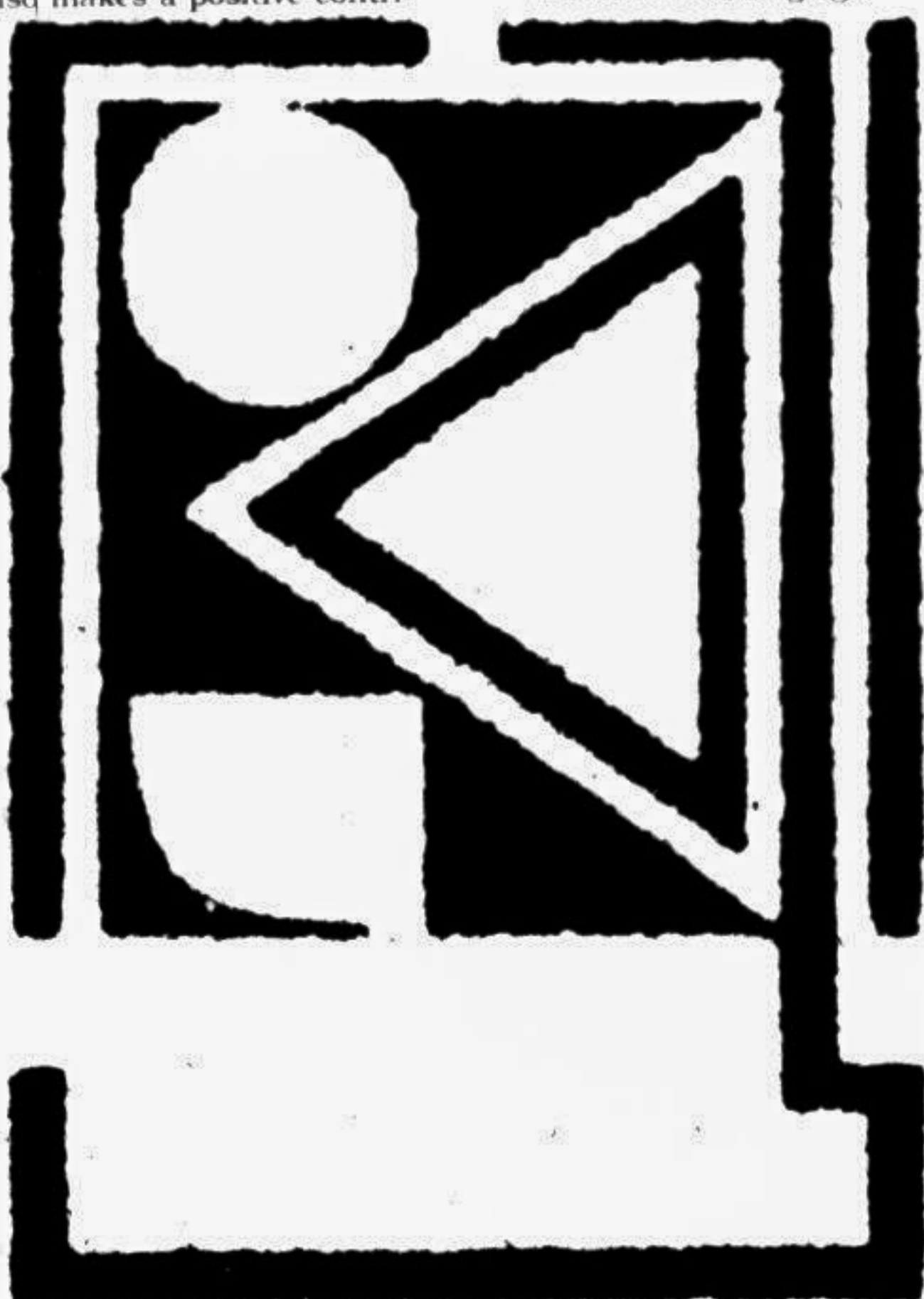
UNESCO in its report remarks that in most developing nations, the education policy failed to illustrate the women's empowerment and their positive impact on society.

On the other hand, the World Development Report 1992 published by The World Bank claims that increased social investments in female literacy among the poor nations has significantly reduced child deaths increased life expectancy, i.e. increased knowledge of nutrition and cut down child birth.

However, Kohinoor does not understand the significance of female education. She dreams one day she can probably read and write, when she grows up. Early at dawn she treks out of her shanty squatter to pick papers till 8 in the morning and attends a morning school in Dhaka.

— Photo: Rafiqur Rahman/Development Features

Animation Software
3D Studio 3.0

This feature-laden package sets new standards of excellence for 3D graphics and animation

Release 3.0 from Autodesk is quite a big step up from its predecessor. A slew of over 200 new features, including network rendering, better SVGA support, a 'metal' shading mode, raytraced shadows, texture morphing, enormously enhanced IPAS abilities, interface improvements, and yes, DPMI compatibility, make 3DS 3.0 a very exciting new product.

Wish List Features

3DS3 finally runs in a DOS box under MS Windows (and includes a Windows desktop icon). It's a great multitasking renderer when run under OS/2 2.1. And has a completely user-transparent networked renderer. Network slaves can be powered up without hardware locks, with 9,999 machines per network. A visual, interactive Network Queue Manager is available for rearranging network process order, starting and stopping processes, viewing log files, etc. There is a text-editor built into the program that can be called from IPAS routines, enabling motion scripting and other complex interactions with external processes. The text-editor can also be used to edit 3DS.SET and .IFL files.

New IPAS routines that ship with 3DSR3 include: TUBER.AXP (skeletal animation for tubular objects), HAND.AXP (skeletal animation for cartoon hands), CCUBE.SXP (colour cube shader that automatically scales with the object), STUCCO.SXP (all-purpose antialiased stucco, also useful for making paint blistering effects), CHECKS.BXP (interactive 4-colour checkerboard texture-map editor), and more!

Improved Interface

Release 3 has much better SVGA support, and the whole system now runs at a default 800x600 resolution, with the Materials editor defaulting to 640x480. The IPAS PXP loader can load an infinite number of PXPs in one session. Release 3 introduces automatic project archiving of geometry and texture maps using PKZIP.

Object selectors and merge djalogs now include "pattern matching" controls for wildcard selection. Project files can now be merged into scenes as well as 3DS files. 3DS.SET configuration files can be loaded via the command line for different configurations, and you also get 250 map-paths. There's an interactive map-path editor for configuration and map-paths can be created on-the-fly by automatically searching the geometry subdirectory.

Besides, two 'considerate' features make 3DS3 suddenly much more usable: User definable function keys, and an on-line, context-sensitive help system. Just hold down ALT and click anywhere — viola! you get help.

Modelier Enhancements

The modeller also has its share of new features, starting with 2D Boolean operations for union, intersection, sub-traction of bezier shapes in the Shaper and Lofter. A great addition is the automatic detection and deletion of coplanar faces — making CAD models easier to deal with. Objects can be precisely arrayed in linear and radial patterns. Any mapping icon can be snapped to the exact extent of an object. Other tools, too numerous to mention here, make the modelling components of 3DS3 really quite powerful.

The selection operations are now significantly faster and the selection tools can be used in the Camera view. The Editor allows you to use 64 object colours for modeling clarification and object manipulation. Since the object colours can be used as selection sets, you now get 64 selection sets.

There are new path adjustment commands (scale, skew, mirror) in the Lofter and automatic vertex welding for eliminating "core" vertices. For visual light placement control you have a new viewport which shows how the scene looks from the spotlight.

Keyframer Goodies

There is now a "delete range of keys" command within the Track Info dialog. "Hide keys" are now available to control invisibility for objects on a keyframe basis. Object motion blur for eliminating temporal aliasing is very fast, and available on an object-by-object basis for complete flexibility. Full-scene motion blur for "blurry" special effects is also possible.

The camera "Perspective" command dynamically changes perspective while maintaining the scene framing by shifting the FOV and dollying the camera simultaneously. This can be used for both stills and animation. Camera viewport clipping has been optimized. Previews can be done in Box mode for extremely fast speed and in any resolution supported by your graphics device.

Surface materials can be morphed (i.e. transparent plastic morphs to solid metal). The new "Object Snapshot" command takes a model in any state in the Keyframer and puts a copy of it in the editor. This allows you to use morphing as a modeling tool, produce effects like hierarchy animation simulation. Ambient light is now keyframable.

Materials Mania

The most noticeable difference in 3DS3 is arguably in the materials editor, which has a very different look now. It runs in 640x480 mode using built-in screen drivers, and supports 15-bit, 16-bit, and 24-bit displays. The Current Material name is editable, and all maps and settings can be copied from one material to another.

Bitmap names can be dragged and dropped into View File and File Info buttons for instant viewing or statistics about a file. All types of mapping can have two overlaid bitmaps in varying proportion. Self-illumination is now variable between 0-100 per cent, instead of just being on or off.

A metallic mode provides metallic properties based on true dialectric physical attributes. Wireframe mode is now a modifier for Flat, Gouraud, Phong, and Metal modes, which allows for texture-mapped wireframe materials, metallic wireframes, etc. Wireframe objects can now have wires in real "world unit" scale — if you get closer to the wires, they get bigger, as if they were true geometry.

Reflection maps no longer need mapping co-ordinates, and the new "Box Mapping" parameter allows automatic assignment of six different texture maps to any object so that it can be completely texture mapped without having to assign mapping coordinates. Multiple texture maps can be blended or layered (i.e. decals can be layered on top of other textures). All mapping types can be composited together with masks for each mapping type.

Rendering

Here's where we see a whole plethora of new features — high-quality analytical antialiasing with eight times finer antialiasing shading than 3DS 2, even on nearly-horizontal and nearly-vertical lines. Antialiasing control has been simplified with just ON and OFF modes. Automatic checking and colour correction for "legal" NTSC and PAL colours is also available. The 64-bit Super Truecolour colour system incorporates display and rendering gamma correction for accurate colours on any output device. There are new controls for aspect ratio preservation of back-ground pixels, and a bunch of new rendering modes: Render Region, Render Object, Render Blowup, and Render Last.

Opacity maps and transparency control ray-traced shadow density accurately, providing transparent shadows. Spotlights can project still or animated coloured bitmaps to simulate slide or film projectors. Omniand spotlight strength can be positively multiplied into super-hot lights or negatively multiplied into negative lights that subtract light from an area. The spotlights' hotspot/falloffs automatically adjust when you bump one into the other. A new "Ground-hugging" layered fog is available for moody atmospheric effects.

JPEG files are supported with variable compression. BMP files are supported (b/w, 16 colour/grey, 256 colour/grey, truecolour). The 8-bit colour fitting algorithm has been improved for VGA images and moving images. Custom palettes can be automatically derived from .fli/.flc, .gif, and .cel files. The disk-to-VTR function has been enhanced with centering and resizing controls.

IPAS Expansion

IPAS stands for the four general types of external processes (Image processing, Procedural modeling, Animated Stand-ins and Solid textures) that could be created in 3D Studio Release 2. Independent application developers embraced the IPAS concept, producing almost 100 unique 3D Studio effects, such as "explode", "disintegrate" and "lens flare". Release 3 offers many new sophisticated types of IPAS support within two general areas: Keyframe (.KXP) and Bitmap (.BXP) processes.
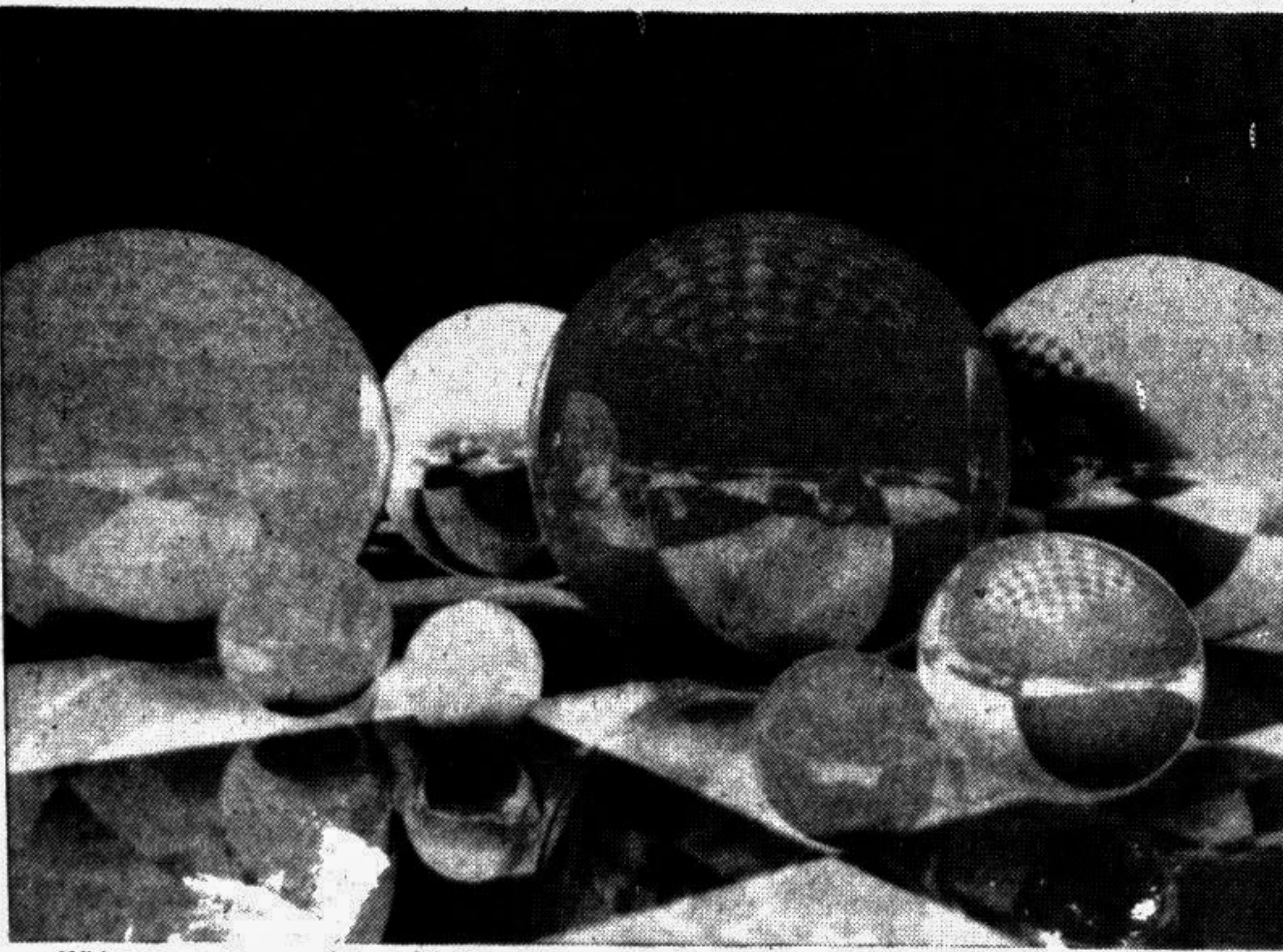
While samples of the .KXP and .BXP effects are included with Release 3, independent application developers are again expected to produce a wide array of creative new effects. The .KXP technology, for example, can evaluate and then affect the position of objects in the 3D Studio keyframer, making possible sophisticated plug-ins that incorporate collision detection, flocking and skeletal animation. "Bounce.kxp," included with Release 3, uses simulated gravity and collision detection to make objects bounce automatically with realistic decaying motion. The .BXP technology allows developers to add support for any raster file types within 3D Studio.

World-Creating Toolkit CD-ROM

The World-Creating Toolkit CD-ROM included with 3D Studio Release 3 is an expanded source of 3D objects and textures. It is intended to "provide the user with a comprehensive 'studio' of artistic materials and tools". The World-Creating Toolkit CD-ROM includes : Texture Maps : More than 1,100 Targa files of specialty texture maps organized by type and name. Woods, skies, rocks, animated flics and much more are included. Many of the maps "tile" seamlessly; others are designed to work with specific Release 3 features such as the projector lights. Models : More than 500 pieces of geometry — buildings and landmarks; plants, trees and flowers; people, animals and even monsters. Fonts : 100 PostScript fonts, custom designed for 3D Studio. Each font includes the full international character set. Samples : A number of 3D Studio creations — still and animated — to inspire both novice users and veteran 3D Studio fans.

— by Ashish Gulhati & Rishab Aiyer Ghosh

With a combination of the metallic effects and reflection maps, you produce scenes like this.

Enhancements in the modeller and visual light placement controls let you easily create complex 3-D images.

For the solid text in the upper right corner, first the 2-D shaper was used, and then the lofter.