



Autism-Friendly Environments

by Christopher Beaver

Autism is now widely recognised as a learning and communication difficulty affecting a high proportion of the community. Until relatively recently people displaying the symptoms of what is now called ASD (Autism Spectrum Disorder) were simply put into psychiatric institutions and there they remained; misunderstood and unable to communicate their difficulties. This is still the case in many countries in the world but slowly the message is filtering through that ASD is an impairment in its own right and given the right care and management, sufferers can make tremendous progress towards a much improved way of life. An important aspect of this is the environment in which they live and learn.

Even now children with ASD are starting their lives in institutional establishments which pay no heed to the quality of the environment – corridors with a row of doors on each side leading to bedrooms and maybe communal rooms, shiny surfaces which reflect noise, inadequate space for the children to feel comfortable together, flickering fluorescent lighting, multiple changes of level and a complicated building layout in which it is easy to get lost. All these features are deeply confusing and frustrating to the autistic mind and this is made worse by the fact that a profoundly autistic individual cannot communicate his/her distress. The result is more often than not the challenging behaviour we all associate with ASD. Doors will be wrenched

off their hinges, light fittings will be smashed, toys will be rammed down the lavatory and mayhem is soon upon the unsuspecting parent or carer.

In 1996 I became involved in designing buildings for autism. My first brief was to design a residential building for 12 children with profound ASD that was to be as much like home as possible and would stand up to the rough treatment it would inevitably receive. The belief of the Principal was that if the children were happy, they would behave better. The first thing to understand is that children with challenging behaviour display their frustration in different ways and when you design a building you don't know at the time who the occupants are going to be and even if you did, they would change as time went on. So what I have found is that whilst the building may be designed at the outset for the average resident (whoever that may be), it will be tweaked along the way to suit the particular characteristics and behavioural patterns of the individual.

To design a building one must have a brief; it is not just a list of rooms but a full statement of what the building should contain and how it should work. A building for autism, whether residential or educational, will not just be occupied by the children but also by their carers or teachers. The needs of both must be considered and the building will only be deemed a success if it works well for all those that use it. With a good brief there is more chance of achieving a good building; with a bad brief (however stunning the appearance)

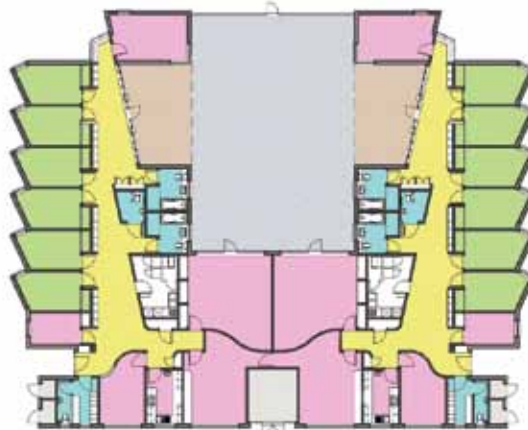
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a good building is less likely to be the result. The designer needs, first and foremost, to be a listener and someone who is sensitive to the problems facing the children or adults, as the case may be, and the carers and teachers. One device I have used with some success is to ask for a description of *a day in the life of a child* and similarly *a day in the life of a carer or teacher*. This has proved to be very revealing in terms of the way in which the building design has a part to play.

I am going to refer to a number of matters which I have found to be central to designing for ASD and illustrate them as far as possible with examples:

PLANNING AND SENSE OF SPACE:

The corridor disappears and becomes a circulation space (coloured yellow in the plan) which the children can also use as a play space, or (in the case of residential use) in the evening for group bedtime story telling. There are curved walls to give a sense of friendliness and the geography is simple and uncomplicated. The space is generous so that the children are not forced too close together for comfort; they have enough room to run about without having to come too closely in contact with each other.



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ACOUSTICS: (Above) With the use of an acoustic ceiling and a cleanable carpet on the floor, a space with six children running up and down can still have a sense of calm. Also the invention by the children of the circulation space as a play space takes the pressure off the living room that can be used for quieter activities like watching television or playing board games.

Generally shiny and reflective surfaces should be avoided as they result in noisy spaces but this is not always compatible with the views of cleaning staff who have to deal with incontinence. There are, however, new products coming on to the market all the time and designers have to lead the way by researching and testing products to persuade clients that there are alternatives to shiny vinyl floors.

SHOWER ROOMS AND WC

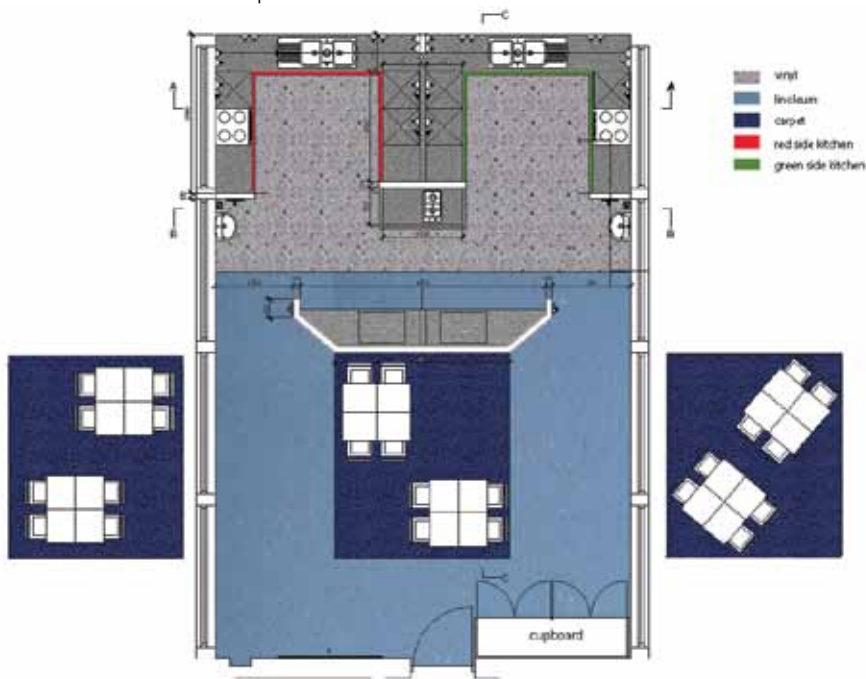
ACCOMMODATION: The tendency now is to have en-suite shower rooms in residential buildings but there are a number of design ‘musts’. There should be no exposed pipes that can be

pulled off the wall and sanitary fittings should be very securely fixed to the floor or wall. Anything that can be jumped on or pulled from the wall will be and the result could very easily become a flood. Showers should have minimum flow so that they can’t be left on and should be of a type that can’t be swung on.

In schools, depending on the size of the classroom, serious thought has to be given to the location of showers and wc accommodation. This will depend to a considerable extent on where



- education & therapies



the children are on the spectrum. There is nothing worse than having to lead a child who has soiled him/herself down a corridor to the nearest shower or wc which may be some distance away. The ideal is to have two classrooms that share a common shower/wc area that can be approached from both sides. The child who needs a wash down and change of clothes can then be taken aside a matter of a few metres without having to suffer the indignity of a trek down the corridor on view to all passers-by.

areas, circulation spaces etc, it is preferable to have passive ventilation requiring no energy where extract of stale air is achieved by external air movement.

Where there are number of shower/wc locations it is better to link them to a 24 hour operating central fan rather than a fan in each location that comes on with the light switch. This will ensure a higher standard of ventilation that will operate continuously.



HEATING AND VENTILATION: A degree of comfort is important to us all so a well heated and ventilated building is of prime importance. Long gone are the days of low surface temperature radiators and conventional panel radiators (although they still appear from time to time); the former are ugly, bulky and take up space whilst the latter are ideal for 'posting' a variety of rubbish in the space behind the radiator. More successful is underfloor heating in new buildings where there is a high degree of thermal insulation or radiant ceiling panels (where it is not economical to disturb the existing floor) in conversions. In both cases the heat source is out of reach and virtually invisible and takes up no floor space.

WINDOWS: Windows need restrictors to prevent residents from squeezing out through a narrow gap and disappearing. It is also preferably that they are lockable from the inside. Windows will almost certainly be double-glazed so both layers of glazing will have to be toughened or laminated. This provides the opportunity to put blinds between the glass layers so that they cannot be tampered with; the blinds can be raised, lowered and tilted by means of a remote control. Horizontal blinds will not provide 100% blackout but will darken the room and also reduce glare depending on how the horizontal blades are set. This is not a cheap solution but very effective and a lot better than blinds or curtains fixed with Velcro that spend most of their time on the ground.



Ventilation is not just a matter of opening windows or turning on a fan. A room with a window in one wall will never ventilate a room properly because there is always a 'dead' space at the back of the room and in any case an open window is an ideal 'escape' opportunity. A better solution is 'through' ventilation where air enters the room at low level and is drawn out at high level. The low level window will have a restrictor on it to prevent 'escape' and the high level window is out of reach. This provides the ideal ventilation and also has the benefit of introducing natural light on two sides of the room. This concept has to be part of the building design so that the high level windows are built into the 'envelope' of the building. In common

LIGHTING: Most light fittings are not designed for challenging occupants. Those that are look as though they were designed for prisons with metal bars protecting the usually fragile diffusers from vandalism. This is a difficult area. Fittings can, of course, be fixed out of reach but they are still vulnerable from projectiles. So concealed or flush lighting fittings are preferable where they are less visible and inviting as targets for challenging behaviour. More importantly, traditional fluorescent lighting is deeply worrying to ASD sufferers due to sensitivity to the flickering which is less apparent to others. Low energy compact fluorescent fittings can, however, be used successfully.



Lighting can, of course, do more than just light a building; it can change the mood and even colour of a space and this is where dimming comes in. In residential buildings carers may want to lower the level of lighting to suggest bedtime by simulating the setting sun. At night some may want to sleep with the light on but perhaps set to a low level. Dimming can provide flexibility in 'scene setting' and create different moods to suit individuals or groups.

QUIET ROOMS: Another essential ingredient in any building for ASD, whether for children or adults, is a room where someone who is displaying difficult behaviour can be taken for a period of 'calming down'. What I call 'difficult behaviour' can easily spread and it is better to isolate one person for a brief period than have a whole class, for example, acting up in a similar way. So these quiet rooms need to be located so that there is always one reasonably near at hand.

SENSORY ROOMS AND GARDENS: ASD is a disability affecting the senses so it is no surprise that through one to one sensory work, enormous strides have been made with certain individuals. It is slow and painstaking work but I have heard remarkable stories of how barriers in communication can be broken down. All buildings catering for ASD should have a sensory room with the ability to modulate the mood lighting to create an atmosphere of well-being. The same can be said of sensory gardens where the individual's senses can be encouraged to respond to surfaces, sounds and smells.

COLOUR: There are calming colours and stimulating colours, warm colours and cold colours. The choice of colour in a building can have an impact on behaviour. There is research available on this subject and care should be taken to select and use colour in a way that creates a warm but not over-stimulating environment.

FEEDBACK: There is no doubt that environments designed with an autism-friendly approach will set a standard for better behaviour, foster a happy relationship between resident and carer or teacher and result in a reduction in challenging behaviour. In existing classrooms, advice on how to improve the acoustics has resulted in an **immediate** improvement - literally within hours - with children behaving better and being less rowdy. It is generally true in life that the happier we are, the better we behave. This does not only apply to those who suffer from ASD - it is true of all of us.

CONCLUSION

The above aspects of design only scratch the surface of what can be done to make a building autism-friendly. But I don't want to leave you with the impression that these features can only be achieved in new buildings. Many families struggle to care for a child or adult at home and come up against all sorts of problems. A lot can be done in the home to achieve an environment that will work better for the autistic person. Some of the above design items may provide a check-list of the sort of things to consider for adaptation in the home.

But where do we draw the line between environments that prepare the individual for the outside world and the protected environment of the purpose designed building? This is a difficult one for me as I am not a policy maker; I respond to a client's brief. But I do see a dilemma for organisations that seek to provide the ideal autism-friendly building for their children (or adults) who then go out into the world only to find that it is a noisy and confusing place with many dangers for which they are not prepared. The low functioning individual will no doubt find this less of a problem as he/she will more likely be in care for life. It is the individual who lives in both worlds that may have more difficulty. Designers must be aware of this and try to find the right balance for the particular user group that will inhabit his/her building.

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